SEQ ID NO: 1

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   1 TGCAAGCTTG CAAGTTTTAC TGTCTCATAT GGTTCACATA CCATTCATTT
  51 AGCGTGGCCT CACAACCAAC TTGGGAACCA CTGCCCTAAG TAACAATACC
 101 TCACATATCC ATAGGATCTT CAACACCATT CTGCTTAAAA TTCAAATCCC
 151 TTTCATTAAA ATAGAAGATA TTTAGATACA AGATAAATAG AGCATATGTT
 201 TGTATGTGGT CATCTTCAGT TCTAGAAACA GTTTCTTCTC TCTTATGCAA
 251 CTGAAAGTAG CTTAGTTTCC ACAGCCCGT GCAGAGCAAT ACGGTTGTAC
 301 TGCTCTCAAA GAAGTACCAA CACAACATGC ATCAGCAGAG TTGCACAAGA
 351 CTACTGAAAT AAAATTGCT TAGCTGCTAG TGAAAACATA AGTATCCTTG
 401 CTTGTAAACA AAAGCATAAG TCATTTCACA CACCTCCATT TGCAGGGCTT
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                              Q gene exon 5

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 451 CAGCTAATCC TCGAAGAGCA AACTTGGTCG GAGAATAGGC TGTATAACCA
 501 AAAAGGCCTA ATTGCCCAGC CTGAGATGAT ACAAACACAA TCCTTCCCAT
 551 CCGTCGTTCC TTCATGGTAG AGATGACTGC ACGACTCGGG TAAACACTAC
 601 CTAGATAATT GACTGCCATT AATCTCTGTG GGAAAAAAAA AAGATATTAA
 651 AATGGTATTT CAGTCACTGA TTCAGAATTC TTCAGATGTT TAGTTTTATT
 701 TCTCCAAAAT CCCTACTGAG GCTTGCTTTA ACATCAAACT CCACTACATT
 751 TCTATCAGCG AGCAAAGTAA ACAATTGTTT CTACTGTAT TTGTTTCATA
 801 AACGTTCCAT AGCAAAGAAT CTCACCGTAA GACAAAAGA AATGCACTGT
 851 ATATACAAGT GTTAATGGCA TTGAGGATAC TAATGATGTG AGCTATTATG
 901 GCTTTCACAA AGAAAAAAGG GCAAATTACA AAAAAAACTG ACTTGAACAG
 951 TGTCTAGGAA GCAATCCATT TATACAAGAA GTACAAAAC ATTGAAGTGA
1001 AAGTTTAAAG GGCTTCCTAA AAAAAAGAAA GAGGAAAAAT TCTATGTATA
1051 TATGCACAAG CTCTCATCTT GGCAGGTAAG ATTAATTCCT GTTTCAATCT
1101 CCTGAAGACC TAAAACACAA CTGGTGGCCT ACACAAGCAA TAAAACAGAT
1151 TATTTACCCT TACTGTTACA CTTACTATAA CATTATGCCT ATTCAGTATC
1201 ACGTGCATTT TCAGATGGCT CTGTGATGAA GTGAGAATCA AAGTAACCAG
1251 AAAGTAGAGA GGCTGTTTGG TTTTTTTTAA TGTATTTTGG TTTGGGTTTT
1301 ACTGTTGTTC CTTTCTTTCC ACCAAGCTGC ACCAAGTTAC CAACAGTTTA
1351 CATACCGCAG AGTTGAATGC TGACAAGATG GATTCTTCTT TAACAGATTC
1401 AAAATATGGG AAAAAGACCC ACACATCTTC ACCAGGAAAA AAGAGCCCAA
1451 TTCAGTGTCT TTCACAGCGT GTTAAATAAA AGCACACATC AACCTTCCTT
1501 TCCATCTTGA GGTCCTTCCC TATCCCAGGT GGGGAATTCA CTGTTCTGAA
1551 TTGTCCATGG ACCAATAATC AGGTAAAAAA ATAAGTTGCA ATCCTTGCAA
1601 ATCTAAAAAT GCATACAAAG ACCACCACTA ACGAAATATA TTGCTACTCA
1651 CACAGTCCGG AAAGACACAG TAAAATAATC TATTCCTTAG AACAGCGGAA
1701 TGACAAATTA CTTGCAATGA AATAAAGCAT GATCACTCAC TTCAAAGAA
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                              Q gene exon 4

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1751 TTTACTTCAA TATCCTCAAA TTTTCCTGTA ACTGATGTTC CTGCACAGTT
1801 GACAAGCAGG TCAACTGGTC CCAGCTTCTC CTGAGCCTGC AAGAGGACAG
1851 AAATTAAGCT CTCCAGCAGG AAAAAAAGCA TTCATATAGC ATAGTGTCAT
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                                    Q gene exon 3

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1901 CATTAAATAT ACTGCCACTT GAAACACATC GTACAGAGAT GACCTTAATA
1951 CATACGCTGG TGGAACAGTT GCTTCTCACC TGTTTTAGAA CGTTCTCCAC
2001 CTGTTCATAG TCTTTAGATA CATCAACAGA AATACACAGC ACAACCTAAA
2051 AATGGAAAAT GAAAGAACAT ATTATAACCT CAGTCCAAGA ATGGTTGGCC
2101 CCAAGTCTTA CAAAAGAAAC TGCACACTGC TTCATGAGGT CATATTAGGG
2151 ACAAAATTAG AAAAAAACAA GACTAAAAAA AACTGATTAG TGGCACAGAG
2201 CTAAATATGC CTAAAAGTG ATTTAACGTT TACTCTTTGT CTGGGAACAA
2251 GAGGTTATGG ATCTTAGTTT GAACGATACA GGAAATGAA AATAGACACT
2301 GGCCCAGGGG AGAATAAATA AATAAATAGT AAAAAAAAGA GAGACAGCAA
2351 TGTCTTAATT TTTGTTGCAG CTGGAACGTA GGTATTGATT TTCTTAAAA
2401 CTGCTGATTA CATTTAGCAA CTTGATCTCA GAATCTAAGT TTTGAAGCAC
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Fig. 1-1

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2451 CTTCCAGTCA ACTTCCAGCC AAAGGAAGCA CTGACTTTGG GGTATCACCA
2501 ACTGTAAGAT CACTGCCAAC TCCAGCTTGG CCGGGGATTT ACAAAGAGAT
2551 TATCCCCTCT GCTAAACAAC TATCAAGGTT CTGAGGCAAC TCAGTATCTT
2601 GAAAGGAGAA GCAATCACAT ACCACAATAG AAGTAGAGAC TCCTGTATTC
2651 TCATTCTGAT TTCTACGTCT TACTTTGTCC AATTCCCTTA AAGCTGGTTT
2701 GAGGTGAAAT AAAGTCATCA CCGGATTCTA ACAAGCGTCA TCAGGGTCAC
2751 TTGTCATGAA GCACGCCAAC AAAAATGAAG AAAAGCTTAC CAAAGTGTAA
2801 CTAACTGCTT TGGCAGCTAG TCATTTGTCA GTTTTGCCTC TGGTCAGACT
2851 GCAACACTTC CCAGCTACAT AAACAGAATC TGCTTGCCAT TCCTGTGCAG
2901 CAGGTTGGCT ATTCCTGCCT TCCAGCACTG TGCATAGCTG GACATCGGAG
2951 TAAACTTGTG GTGCAAGTTA ATGGTTGGCC AGCAAGCATC TCCCCTTAGG
3001 GCATTTTTAG ATTTTAGAAA TATTTATCTT TTACATAAGT TTGAGAACAA
3051 AAATAACAGC TGAGCTAAGA TAACACTGAT TTACTATCTG GATGTCTTTA
3101 CAAGATCAGC AAGGTTAAAA ATCACAGTTC CATACGAAAA TTGGACATCG
3151 GACCACAGAT CAGTTAATCA TACTGAGAAC AATATACTCA GGAACTACTA
3201 AAGCTTGTAT TGGCTACCAG CACATTATAC AATTCATCTT TTTGCTTCTA
3251 TTATTGTATT TCCTTTCTGC TACATTAAGT TGATTACCTC CAGTCCAGAG
3301 CATGCACTGT GAATGTGGTC CTAATAAACA GACTATGCTG CCAGGAAGTC
3351 TAATATCCTC ATTCCAGTTT CTCGTCTTTT GTTCTAATAG CGCATTATCT
3401 GACCATTCCT AAAGCATTCG TTTCTCAATA AAAGCTCAAC TCCACTCCCA
3451 GTGAAGTAAC TAGGAATATT CCATACTGAG AAAGTGATTT TAACCATTTT
3501 CCAAAAAAAT TATGGGCAAG CATTTCATTT CACTGCATCC CTTTATTTGT
3551 AAAGGCTGCA CTGTCAGCAT TCTAAATAAA TCACATACAA ATGTATTTCA
3601 GAGAACACGT GCCAAATCCA ACACCTAAAG GTACGTTGAC ACCAGAATCC
3651 TGGTTCTCAA TGCAACTTAG TTTGACATAT ATATACATGA GCAGAATGCA
3701 CAGCATATAA TCATGTAAAA ACTGGTATTT CCTCTGGATT TTTGCTCCCT
3751 AGCTTGGCAT CTTGCAAATG TAACAGCCTC TGTGGTCTGG CAACCCATCC
3801 CAGACAACTC TATACTTTCA GCAATCTTCT TGTACAGCCT CTGTCTCTTT
3851 CGCTGCCCTC ATTTGTCAGC TTCTTATCTG CCGTTCTTCT TCTATTTGTG
3901 TTCTTTGAAT TTAGAACAGG CAGACTTCCC TGTGACAATG ACTACAACTC
3951 AACAGTAGGT ACACGAGGGC ACTCCCACTA CAGCCAGATG AAGTATGGAC
4001 AAGTCTAAAT TTGCTACTGC TAAAACAATC CTGTTTAGCT CACACTGAAG
4051 CTTGTTCAGT CTTGAACTTA CTGAAATTTT AACTGAAACT CTTGCAGACA
4101 CATACCTAGT ACTCTTCTTA AGAAACAGA AATGTAAGTC CACATCTGTC
4151 AAGCTTGGAC AGATTTTTAA CAAGAGCATT GTGACAGTGT TTGACAAAGG
4201 ATCAAAGTCA TTGTCAACCC TGGGAAGAGA CTAGAGCAAC TAAAGGGAAA
4251 CCCTTACTGG GGTTTATTTG TTTTTAAAAG GGGACAAAAC GTTGCTCCTC
4301 CTCACCTCAC ATGACTTCAT ATTTCAAGAT AAATTTGATC TGAGTAAGGC
4351 AACATGCACA GAAAGAAAGA TCACCTTGAA CCATTTGACA GGAATGAGCA
4401 AAGACAGAAT CTTGCTGAGT GTTCTTGATA TCTTCATTTA CATCGGCTAG
4451 TACTAACATT GCTTCCAAAT ATCCATCTTT CTCCACTGCT TCTTTTCAGG
4501 AGAATATCCA ACTTATCCAT TCACCAGATT ATTATACACC CAATAGACAC
4551 CAAATCCCTT ATCACAAACA AATTGCTTGC ACTTGTAATA AAGAAAATAA
4601 GAACCAACTA CTGGAGCACA AGAGAGAGGA AATCAAAGAT GCGATGGTCT
4651 CAATGCTGTT TCCCGTCTCT TTTGGATTAT GAGTATTAAG AAAAAAAAGT
4701 TGTAGTATTT CATCTTGAAG CTGTGTTTTT TTGAACACAG AAAGCTGCCC
4751 TATTTTAAAA CATAGCACCC CAGCAAGCAT TAATGCACTC AAACAGTGCA
4801 TTAAGCGTGA ATACATTATT TATTTACCAA AGTACCTCCA GTGTTTAGAA
4851 ACCTCAGTGC TTTGCCAGGA AAACAGCAAT ACACAGCACA ACATAGGGAA
4901 TGAAATCTGA AAATAAGTAC CTAAAATTTA TTCCCCATTA CAATTGCTGC
4951 ATTTACGATC TCTCGAAGAG AAACTTGAAA AAAGTAGGTT ATTCTCCTCA
5001 ATCTTGAACA ATACAAACAC TTATCAAGTG ACAGCAAATT GCAGCTATCA
5051 AAAAAAACTC TAATACACCT ACAGGTGAAG ATACCAATCT TTTTCTCTGG
5101 GAAAAAAAGT TAGCATACTA ACCAGGCAAC ATCAAATGTA GCTGAGTTTG
```

Fig. 1-2

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5151 GAACATCACA CGTAGACAGA TTGGAATTTT TTGAATTCAA GTGAGGCCTC
5201 ACCTATTTTT AATCAAACAG TTTGGTTTTA AAAACCAGAC TACTGAAGCT
5251 ATGTTGAAGC GACTACCTTG AAACACAACA GTTATAGGTA GCAGCGATCT
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                        Q gene exon 2

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5301 TACCTGCTTG TCATTAACAG AGTACTTTTC TATTTCCTTC TTTGTCTGTA
5351 ACAGCTTGTT CTGAAACGGA TAATAAGAAC AGCTAAAGCA CCGCAGTTAT
5401 GAGAACACAT TTGTCTTCAG TATTTCGAGA AGCCCTAGAA ACACTCTCTA
5451 AAAACAAGAA CATTATCATC AGCTAGCGAT AACGCTTTAC TATGTTCATC
5501 TTAGAGGTTT ATGAACGTAC AAAACATCAA CTCCATGCCA TAGCAATGGA
5551 AGAGTTTTAA GGCAAGCTCA TCACAAACTG CATGTTAGAT TACACTACTT
5601 ACAAAGGCAG CCATCTCTAC TCTGCAAATA CATCACATTT AAATTATTAG
5651 GATCACCTTA AAGCATACAG TGGAAAAAAA ACCAATGAGT AATTATCAAT
5701 TCCCAAATTA CTCCTCAACC ATACCAATTT CATTAATATA AGGTAGCCAG
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                        Q gene exon 1

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5751 CAAAAATACA AATACGCTTA CCTCATCTCT TGCAATCAGT GTTATGAAAG
5801 CTCCTTGCTT ATAACATTCA ATAGCAATAC ATTTTCCAAT TCCACTGGAG
5851 CCTCCAGTAA CCTGGAAGTT ATTTGAAAAG TCAGTTAGTC CGTTATTCTC
5901 ATCCCTACCC CTGTATCATA ACAAGTCAAA TCAAAACTCT AAAAGTGTAC
5951 TGAGATTCAA ATATCACCCA GTGAAGTATG AACACATGAG ATATACAAAA
6001 GTTTCTTTAC TTACTGAGTA CGAATGGAAA AATGAAATCT AACTACCTTG
6051 TCAGGCAACT CTCTCTGTCC CAAAAACCAG CTTTACCTTA ATGGTATTTT
6101 TTCCATATTT CTTATGTCAG GCTCACTTAG ACCCACTCTC ACGTGCCTTT
6151 GATTAACTTA TTTTTGAAGT ACGGTAATAG TTATAAGTTT GCAATCACTA
6201 TTAACATTAA GAACGCAATT ACATCCTGTC CCTCCATGCC AGGCTACAAT
6251 AAAATGCATA AAAAGAGCAA TCATAGCTTG TCTGCCAAAA ACACCGTGTA
6301 AACAAACACA ATTTAAAAAG TTATCTTCTT TCTTATTAAA TAAACATCCT
6351 TAATTTGACA GCTGGCCCCC TGCAGAGCAC GTCTCACAGT TCACATCTGG
6401 ATGCTGAACT GCCTCAATGC CCTTCTGTGG GGATCCCAGT TCTAAGCCTC
6451 CATAAGCCTT TCCTTCTTCC TCTAAACCAT AACTCTCAGT GGTCTCCCAT
6501 GCAAACGGGA AATAAACAGT TTGCCTGCAG ACAAATGCAA GGCGATGGCT
6551 ACAACCCCCC ACTAATAAAC AGGTTAAAGT CACCTGAACA CCCCCCTCTC
6601 TACCCTCCAG AAAAATCTAT TTGTGAACTC CATTTAAAAC AAAACATAGA
6651 TGGTGACCCA ACTGCTCTTC TTCTTATCGC AAATAAAACT GTCATCCTGA
6701 TACTGACTTT TGGTGATTTG TTCATTTAAA CCCAGCCTCA GTTTGTACGT
6751 GCCTTCAGTC CTTAAACACA CAGAGTTGTA TTTTCCTTGT ATGGCCAAAT
6801 GTGTTGAATT TTCTCCTAAG AGCGTATCAC TGAGAAAAGA TTGGAATGTT
6851 TCATTGATGA AGGGAGTTCT GAAATACAGG CTTAAATATT TGAGAAAGAG
6901 ATTCATATTC CTCTGGAAGT TGTCATTTCT GTTCTTTATC AAGACTTCAG
6951 AGAAAGTAAG GTATCACCTC TATTTCAACT ATGAGAAATG GAATGCACTG
7001 AGCCAATCAG TGGAAGAGCA AAGGCTTCCA GTCTCATCTG CACGTGCCTT
7051 TGTTTTGTTT TCAGGCTCAC TACCCTCAAA ATTCTTTCAT ATTCCTGGGG
7101 GCAGTAAAGT CAAAAGAGTT AGAAGTACGC TCCCATGAGT CACCAAGCTC
7151 TTCTTTCTTA CGAGTGTTTC ATCACAAACC TTCAAAGAAA ACAGCTCAGT
7201 ACACAAAGGG TGATCATGTA ACCTCAGCAA ACTTATTTTC AACAGATTCC
7251 ACAGTTTTTG TCTAATTTGT CTGCTGTCAC CAGTGGGTCA AGAACTTAGA
7301 AAGACTAACT TCAACTTAAA CAGAGTTTCA TAGACTTCCC CTATTAGAGA
7351 AAGTCGCTTC AAAGCAGCTT CTAATCGACT CTTTACTACG CTAACCTTTG
7401 TGAATGACTT TAAGATGCAC GTTCTGTTCC GGAGATGTTT AATGCTGTTG
7451 CATTCTGAAT AAAGGATGGC TGCTTCCTAA GCAAATTAAG TCTGTAAGAA
7501 CGAGTGTTAA CGTTTGGGAA CCCTAGCATC ATTTAATTCT TCACAACAGA
7551 AAGAAGTTAA ATTTTTAGTT CATTCCCAAA GCACTTTTGA AGATTCCAAT
7601 ACATCTCTAG AAGGATTAGG AGATTCAGTT TGATGTATTC AGGCAAACCT
7651 CAGTTCCAGA GCACTCATGA GCTGCCTTTA CAGATTTTCA GCAGCAGCTG
7701 GTACATCAGC ACAGGAACTA ATGAATGCAT GTGGAAGACT GCTCCAATTC
```

Fig. 1-3

```
 7751 CCATTTTTGG CACAGCACTG AGGCACAGCT GATTGCTACC TGTACAAATT
 7801 GCTAAGTGTC ATGAACAGGT CAACTACAGC AGTGTTTGAA GGTGAAGGTG
 7851 GCATAATGCC TATGGCTTGT TAGACAACGT TAACGTTCAC TTCGGAAAGA
 7901 CAAGGTCTGA AGTCAAGCAA GAAAGGGAAG TTTTTATTTG CAGTCATACC
 7951 CAAGAACGCT AGATAGGGCT CATGTCAGAT TGGTCAGTGA CAAAAAGCAG
 8001 AATCAGTTAG CTAGGAACTT CAGCATTTAG GTGGAAGGCT GTTACTAATA
 8051 CGTTGGAGGT TGTTACTAAC ATGCACCACG AGATGCAATG TAACAGTAAA
 8101 GAAACAGAAC AACTCATCGA TCAATGAGTA AGCACAATTC CAAATCATCA
 8151 CAACTATCAT CAGAAGCGAT CAAAATGAAG ACTTGATATG CTCTTTCCAA
 8201 CAGGGCTTGC TAGCTTTCAC TGAGCAGCAG CACAGGATGC AAGCTGGCTT
 8251 CTTGCTTTTA GACAGTACTC TAACAGTAGG CATTCAGTTC CACTGAAACA
 8301 GAACATCCCC GTAACTTGCT CCAATTGGCT GGTGTGCCTG ACTGGACTCC
 8351 AAATGACCTC TTCCTGAACC ACCCATGTGC ATTTAAGCCA CAGGTCACGC
 8401 TGCTCCCAAT GCAAGAGCTA CAAAGCTGAG ACACGGAGAT GGGTCAACTC
 8451 CAGGAACACC CAAAGCCTGC TGTCCTTATC TGATGGGCTC TGCAGGGAAA
 8501 TGCTGAAACT ACTCCTAGTC CTGAGATGGC CCTTACACCT GTGGCTTGGG
 8551 CATACTGAAG CTTAACTATG TCCAAGTTAA AGGCCCTGCT CAAACTGAAA
 8601 GGAAGACAAT CACAGGCAGC AAATATCCTT ACATTCCTGG CATAGTTAGC
 8651 CTATGAAAGC AAAAATACAT TTAAAGCAT TTTGTTTTAC TAAATAAGCA
 8701 AAAACTGATG CTTGAGTCAA CCTGATAGCT GTGAAGTCCT TCCTATTTAA
 8751 CAGTGCCCAC TGAGATTACC AAAACACACA GCAGATATGG AACAGGAAAA
 8801 CACCCCCACA AGATTAGATC AGTAATTTGG AGTTCTGTGG AGCTCCATTC
 8851 CTCTCTAAGC AGAAGAGACA CCTGTGGTCT CGGTCCCACT CTAAAGCATA
 8901 CCTCATGTCA CACAGCAAGT GACTCCAGGA GAGGACAGGA GGGAAAAAAA
 8951 CCCCAACAAA AAAACAACCA CACATTTTCT GCCTCAGATT TCTGTCCTTG
 9001 TACCTCAAAC ACCTAGCTCT ATTAACCATT ACAACTGTTA GGAGCAGAGA
 9051 GAAATAGATT CTACAAATGA TTAAGTAGGG TGTGAAAAAA TGCTGATTTA
 9101 AATTGAGAAT TCAACAAGTA ACTGCTAGGA AACAATATAC ACAGTAGCGT
 9151 CCAAACACAT TCAATGACCC TCTTTAAGAA ATACTACAGG TATTCTCCTG
 9201 CACATATGAA GGGGGAATTA TACATACAGA TCACACAAAC AGATTTTGAC
 9251 TTTTTCTGTG AAAACACTTC AAGGAAGTTC TTAACAGTGC TACGGTCCTG
 9301 AATATTTTCA TGACACCTTC TGATAATTTC AGTAGCAGAG AACACTCACT
 9351 CCCATTATAC GATGCAAGAA TTCACCTTGC ACATGTGATG TGTACAGCCT
 9401 TCACAAGTAC AGTTTCTAAT TTACAAAACT ATCATCCAAT GTTTTTCCTT
 9451 ACACAATTCA CCCAAACATT TGAAACCCAA ACATGCAAGT CTAACAGCAT
 9501 CAGGGTTATT AGCAGCACCT ACATATCAAA AAAACTAAAA CTCTGAAACA
 9551 ACTGCTCCAT GTTTCATGTG TTTGCACAAA TGCTTTCAGA GCATAACTGA
 9601 AGCCATAGTC AAACAAGTGC TTCTGCCAGA AGCAATGCCA CTGAAGCTGA
 9651 TCACCCACAG ATTTGTACCC TGATGCCAAT AAATACCTAC AGCCTTTCCT
                                          CR1-GG
 9701 TCTATTGGGA TATGAACACA GTTAATCCTC CAGAAGGTGG TGACGCACTG
 9751 GAACAGGTTG CCCAAGGAAG TTGTAGATGC CCCATCCCTG GAGGCATTCA
 9801 AGGCCAGGCT GGATGTGGCT CTGGGCAGAC TGGCCTACTG GTTGGCGACC
 9851 CTGCACACAG CAGGGGGGTT GAAACTAGAT GCTCATTGTG GTCCATTTCA
 9901 ACCCAGGCCA TTCTATAATC CTACGAATAG TCATTTTGAG ACCATCACTT
 9951 ATGTCAAATT CAGGTTACGT GGCTAATACA ATTAGCAGTA GTGGCTGTGA
10001 GGGAAGATTT CTCCAACAAG ATTATTCTTT GTCATTTTCA TTGTGAGCCA
10051 ACTGAAGTGG CTCTTTGAAA AAGAAGAAC CAGCAGAGTA GCTTTGGAAA
10101 AAGCGTAACG ACACAAGAA AAGACAACAC TCGGGATAAT CAGATTAAAA
10151 ACAAACAGGT GGACAATACT CTGGATAGA ATACACTGAA CATTTTGTTG
10201 CTTACTATTC TGTTTCCACG CAAGCACTGC AGTACCCTTA CCCTGCTTCA
10251 CCTTTGCTTT TACACAGTAC AGAAGGATTC CTGCTTAGCA AGAGTTACCG
10301 CTGTGGGAAG AACCTCAGAG AGCCTTCACT CACGCTCTAC TATCTCCAGC
10351 AGGACATGAT GCTGTAAAGC CAGTTACAAT ACCCAGCAAT ACCTATTGCA
```

Fig. 1-4

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10401 TCAAGTAATT TGGGAACACT GTTGCAACTT GGACAGCTCC AAGCCGGGAC
10451 AGCTCTATCC GCAAAGAGCA GCCCTAAAAC AAATAGGCAG ATAAAAATGA
10501 ACACAAACAA ACAAGGCACC ACACAGAGCT CAAAAAAATC CCAAATGCCA
10551 AGCAGCTGTC AATTCCCTCG CACCTCAGAG GTCTAACTTC TGCATTACAC
10601 CCAAGTCCTG TAGTAACCAA GTCCTGTAGG CAGCCTGCAT GCCCTACTCA
10651 CCCCCCAAAA GCAGATTCAG CAAGCAAACA GCACAGCTCC TCTACACGGA
10701 GCACACCACG GGTAACTACA GCTAAGTCCC CAGAGCTGAC TGAAGGACCA
                                    CpG island
10751 CAGCCGCCCC GACCCGCTCT CACGCACCCA CATGCTCCAC ACACACCTGC
10801 AGGCCCCTGG CTGCTGCTCC CCATCACGCA CCCGCCCAGC TTTCAGCGGT
10851 ACGCTCCTGG GGAACCGTTC AAAAGCTATA TTTTCCCGAA TAAACCCTCC
10901 CAAAGGCTCG CTCCTACACA GCTGATTACA GACAAGCCAA ACGTCGCTCG
10951 TGGACACGGA TACCCGCGCT GAGTGCCGCC TGACCGCTTC CCTTCGCGTC
11001 AGCCCGCCCG TTTCCTCAGC ACGGGTCGCC TTTCAGCCCG TGCCTTCCAC
11051 CCTCGTGAGG AGGGCCGCAC TCCAGCACCT CGGCAGATGC AGCGGGGCCT
11101 TCCCCGGGAC ACGGCGGCCG CGGCCTCCCC GCTCCCTCCT CCCGCCCAGC
11151 GCCGGCAGCG GACCGCTCCC CCGCGGTCGG TCAGCCAGCA GCGGCCGGGA
11201 TCGGGGTGGG GAGGGGGAGG CGAGAGGCCT CGTTCGACTC ACCACGACGT
11251 GTGCGCCGGG CAGCTTGAGG GGCTTGGGGC TGATGAGCGG CGACACCATG
11301 TAGAGGAGAA GGACGATGGC CACGATGAAG GCGGCCGCCA GGAGCAGCAT
11351 GGCTCGGGCC GGGCTTGCCG CTGGGGAGGG GGCGGCGGGC GGTGACAAGG
11401 CCCCTGGGGC TGCGGGAGGC GCCGAGCGCG GCGCGGCCCG GCGCGGCACG
11451 GACAGCGGGA GTAGAACCGG TGCCCGCCTG CGCCGCGGCG CCACGGGGCC
11501 ACAGGGGAGG GGGAGGAGGA AGAGGAGGAG GGAGGAGGAG AACACGGCCG
11551 CCACTCCGCG CCCTGATTGG CTGGTGGGCG GGGCGGGCGC GGCCTCGCGA
11601 GCGGGGATTG GCCAGTGAGC GACGGGAAGG AGCTGGCGGA TTGGCCGAGA
11651 GGCGGGACGG CGCTCGGAGA TTGGAGCCGC AGGCTGTTTG CAGGGTCACC
11701 GTTGGAGGCA AAGGGCGGCG GAGAAGAGAG AGTTCCTCCG GAGAAGACGG
11751 GGTGCGGGAC GGCGCCCCCT ACGGTCCCCG CCTAGGGCGG GTGAGGCGAG
11801 GAGTGAGGTA GGCCCCGCCC CTTCTCGTCA CGTGGGGCTT CCCGCCGAAA
11851 GGAGGGGGCG TGGCTCCGTG AGGTGAGAGA CGGGAGGCTG CGGGCGGCGT
11901 TCACGCTCTG GAACGCGAGG GCAGCTGTTT GTGGGGAAAA AAATGTGTAG
11951 AAGCGTGGTT TCAAAGCATA ATAATAAAAG ATTAACTAAA ACGAAAACGT
12001 CTTGCAGCTC AAATAAAATG ATTCCGTGCC TACGTTCAAT ATTTCCTTCG
12051 CTGTTTATGA CTGAAAGGAA CTCCCTGAAA TGATTATGT TGTAAACGCT
12101 GTGCAGCCTC TGACTTGTAG AAGGGAGTTT GCAGCGTACG CGGCTTTACG
12151 GCCTCGGAGA GATTACGATT ACGGGCGAGA GGGCGTGCGG AAGGGTGTGA
12201 AGATAATGCA GGAGATGAGA TTGGAGCGGG GAGTAGGCGG AAATGGGAGC
12251 AGGGCTGCGG GCAGGGATTA GGCAGTCGTC AAGGGGAGAG CAAAGAATCT
12301 GGAACAAAAG AATCCAGGAA TTAGTTCTGG AATGGGATTG AGCCGGGATC
12351 GGGCTTCGGT GACGCTTTGA GAGTGGTGCT GTGGGGTGGA GGTGTGAGGA
12401 AATGAGAGGA AGAAAGAGCG CGTGCTGAGG TAACAGCTGC CACGGCAAGG
12451 GTGGGGAGAG AGCTGACAAA GTGGTGTGTC CAAGGAAAGG CGGTGTGGAA
12501 TCGTAGGCAT CCTTAAGGCT GGAAAGGGTC ACCAAGTCCA AGCACCAAGT
12551 CCAACTAGCA GAAGTTGGTG TAGGATATGG ACTAGGAACG CTGCAAGCAC
12601 AGATACCGAC TTCATTCTTT GCATACAGGG CAGTGTATGT GTTATCTTTT
12651 GTAGAATATT AATTAAACAC AAAGGAGGAG ATTGATAATG TAATAGAGCC
12701 TATTTATAGT TATCTAGTGC AGAATATGGC GAGACTTGAA AAGCCCAAAT
12751 GTCAGCAGCA TGGAGATAAA GCAGACGGAG ATAAATCCAT CTTTCACAAT
12801 GCGATATCGC TTTCAGAATC AACATGAGGC AAGGGCATGG ATAAAAACAA
12851 TCATCTGCAG TTAATTTCTA GTAAATGAA GGTTAAACAT GTTGGTAGGG
12901 GGCCTCTAAA AACCTCAAAT GCATGATATG CTCCTGATTG GTCACAGTTA
12951 GGATCACATA TTACTAAATA TTTGAGAAGC CCTTGTAGAT TAACGAGGAA
13001 TCCCCTCGGT GAATTTTATG CAGAAATCCA TACTGTCTTT TCCTTTTAGC
```

Fig. 1-5

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13051 TAAGTGGCCA CTTTACAACC GTGTGATTGA CAATCCAGGT AGCGTCCACT
13101 CACATTTTGT TCCTGGGGCA GTGAAGTGTC ATGAATTTAT CTCCAAGAAA
13151 AACATTCAAA AGTGAAGACC TTGTGAACTG CTTATAACTC ACCAATGTAT
13201 CGCCACAGCA GTAGGTTTTT GACTCTTTTT AGGTATGCCA GCAGGCACTG
13251 AAGTTTGCCC TCCTGAGCTG TCTGCTGTCT GGTTTGTATT TGTCTCATGT
13301 GACCTCATTC ACTGAGGAAG TGCGTTCCTG ACACACGGGA ATGGTTTGCT
13351 ACGAAACTCT TTTCTCAGTG ACTGTGGAAC TGGAAATTGA ACCCTAAAAA
13401 AAAAAAGTGT TGAAGCCCTC CAGTCCAAAC TTTGGTTGTA CATAAAGCAG
13451 TATTTAATTA ATCTGACCTT GATTAACAAC ATCAAAAAGT GTAATTTTGA
13501 AGCACAAACT GACCAAGGTA TGTATGTACC TTCGGGATGG GTAAGAAAAT
13551 AAAAAGGTTA ACACATGCTA ATTGCTTTGC TAATTAATCC TTAGAAGCAG
13601 CTTCAACACA ACAGCGATGT GTTTAGAGAA GAAAATCAAA TACAGGTAGA
13651 TTAAAGCGTC CAAACTATAG GACCAGCTGT GGTTTTCTGC TTCCTCAGTT
13701 CTGTTCATAT AATCTTTCAA CAGACGTTTG CAGTAACAAT GTTGTGGGTT
13751 GAGATAAATC AGTATGAACA AAGCATGGCA ACCGAAGTAA GAAAGTAGTC
13801 ATTTAAACAC GGAAACAAAT GTATGAATTG ATAATATTAC AACACAAGTG
13851 ACTGATACTA GAGGTGTCCT TTTGATCTTC TTGTTCCCAA AGCATACAAG
13901 GTACACACAG AAGAGACACA GGCTGTGTTA AGATGCCATT AAGAGAAGGC
13951 ATAAAGGTTT GACAGAGCAG GTAGTGAGGT TGCAGCCTGG ACAGACTTTC
14001 TTATTGCACT TGAGTACTCA TCTGCTGGAT TTTCTGGTTG TGTCATATTC
14051 ACGTTAGGGA GAGAGGAGGG AAAAAGAGCA GGATGCGTAG GCTACTCAGT
14101 GATTAAACAA AAAAAAAAAG CTGGAAACTT CTTCATGTGA TTTCCATCCA
14151 GTCAGTCCTT CTGCTTTTAG AGAAAGCAGC ATGAAGGAAA AACTTCAGTA
14201 GCCAAGGAGA ACAACTTTTT CCTTCTGTTT TCCTGAATTA ACTTACTTTC
14251 CTCTCCAACC TTCTCCCTTT TGTGTAGCAA GCATAGGTGT TCTATGCTCA
14301 TTTCTTAAGA GGTCTGTTGC AGTAATCATC ATAAGACATC AAAGGCATGT
14351 TGGCAGTTCT TGGATTCCTG CAAAGCTTCA AGATTTAGAA TGATGGCAGT
14401 CTAGGTGAGT TGTTCCTGGT CAACAAGCTG TCTTGATCCC GTGTCCCAAA
14451 TGAGAAGAGC TAATAGGGAC ATAAGAACTG AAATCAGAAA AGGATTTACA
14501 TAACATGCTG GCAGTAGAGG AGAATTGGGC AAGAAATAAT GATCTGCACA
14551 TGGTAGTGAC TAAAGCAGTG TGACTGAAAT ACTTATCACA CCCAGCTGCT
14601 TGCCTTGCTG TTCTTCCCCA AACAAACAAG CAAATCCCTT GTAGCTGAAC
14651 AATAGCTTCT TTACTGGTCC ATCACGCTGG AGAGATCATC AGCTACCCCA
14701 TGCATAGCAG GGTGAAACAG CTCCCAGAGC ACTGTGCAGG TCAAAGTACT
14751 ATATGTACCC TGTCTGCTGG AGTGCTATCA CGGTGATCTT CTGGGTATTC
14801 CTAGAAGGAG ATTTCCTGTA CTCCCAAGCT CAACGTATCA TCCAGAAAGT
14851 GCTCGCCTGC AGCAGGGACG GGTTCTGGCG ATCTCTGCAG CTTCCAGCTA
14901 TGCCGCATGC CCTTATCGCA ATGAACTCAG GCTGGGCTGA TGGCCCAGGT
14951 GCTGGAGGCT GCCAGCACGC AGGCAGGAGG TGGTTATAGC AGCTCAGGCT
15001 CAGGTCAAAC CAAGGCTTCT TGCTGGGGCA GAGGGGACTG ACTCTGTGGT
15051 GCAAAGCAG GTAGTATATA TATATGTATA TATATACAAA GCCCAGCTAC
15101 CAGCTGAGAG TCCCAAGGCT GCTGCAGTAG TTTTGCAATG AGCACACAGG
15151 AAACAAGAAG ATCGCTGAGA ACACTGCTGA AATCAGATTT CTGTCTTCAC
15201 ACAGGTCAAG CTGATTTAAC TGTTTAATGT AATTGCTGCA GTTGCTTGGA
15251 AAAAAAAGA AATAGTAAAA CCATGTCCAA AATGAACCAT TCATAACTGG
15301 TGGCCCATTA TGTGTCACAG CCGATGTTGT GCTGAATAAA TAACTGTACA
15351 GGTATTTTAT ATATTGAGCA ACATATTTAT TGAAACAAAA ATAATTTACC
15401 TCAAACCAGC GGTAAAAGGA AGTCTTTACT GTCTAATTTA AATAGGCATA
15451 AGTTAAACTC GGGACTGAGA TGATCTTGAA TTTCATTTGG TGCCCATGGT
15501 TCTTTTTATG TGGTACACCT GCTTACACTT ACCATCACAC TGGAGCAGTT
15551 TGCTTTTGCC ACCCGAATGT CAGACACTGC TATAGATTTA CAGTAGCTTG
15601 GGGGGGCTGC AGGTTGGAAG AGGGGGTTGA GGCCTCATCA AGTGCCATGG
15651 CAAAACACCC TCAAGTAAGC ACGGCTGGAA GCAGGAAGGA TGAGGGAATG
15701 AGCTGCCATT TCCTTTGCGC TGGAAGGATC ACTGCTAAAA CTTGTAAATA
```

Fig. 1-6

```
15751 TCTGTTAGAA ACAAACAGGG ACGTTCACTT TGTCCTGTGA TGCAAGAGCA
15801 CCCATTCTGA ATTTTTATCT CCTGCAAAGT TGTATTTAAG CTGATGTTTA
15851 CCGTGGACGT TCGTGTTACA AGATAGCCTT TGATACTATC AATAACAAGT
15901 CCTCTTTGAT GAAGTAAAGC TACAGAGTCA CAAAGCATGC ACTTGTCTGA
15951 CCCTTTGCCT GGCTGCCTGT CCAACCACGT TGCACCACTA CACCCAGCCC
16001 CACGAGACCT GCTCCAGGGC CAAGGGAATT GAGCACTTAA GGGAAAGTGC
16051 TTTGTACAAA ACATGGCGCT TATGAGTTTG AAAACGTAGA TCCACCAAAA
16101 CCTCCTCAGG CACGATGAGT ATATTTTTC TCCACTACTT ACAGCGCTGT
16151 GAATTCTAGT TAAGGGCGTT TTGATTCCTA AAGAATTTTT CCTTCTAATC
16201 ATAGACGTAC TCCAGTCCTT ATTCCAGAAG GCTTACTCCT TGTATTTTGA
16251 AGGTCTTATC CTGAAATTGG GATGCAGAGC CATTCTGAAA ATGACAGTAT
16301 TTTAAGACTT TGCTGCACTT ACTCTGGCTT CCCACATACC TTCCTCTTGC
16351 AACCTTCCAC CTCCCAGAAC TGCAGCCCAG CCTATCCTCC TCTGCCAGAA
16401 AATCGGATCC CACAGGCCCT ATCTCACACC TCCCGGTTCC CCATCCTCAT
16451 GGCAGCTGCC CTCTTTCCCA AGGCACTCTA TGGAGCAGCA GAACTGCTGA
16501 GTGCACAGGG CAAAGATCTG CCGTTCCGAG AGAGCAGAGA AGCATCGCTC
16551 GGGAATCACT GCACTGCTGC AGCACTATTG TATTCTGCCT TTATTCAGAG
16601 GCAGTCCTTC ACCTATGAAT ATCACTACTA CCTTACTGAA TATATATTTT
16651 CAGGAATATT TTCACTTTTT AGCCAGATAG GAAGCGGATT TTGTAATTAC
16701 CCTTCCAGCA ACTTACAGCC AATTACTGTC TCTCCTCCTG ATTCCTGTCC
16751 AGCAATTTGG TTGCAGTTAT TGCTTCTCCA GAGCGGGCAG AATTTTTTGC
16801 TTTAGGAAAT GTACACCTCG AGGTAATCTT TGAAGAGTGA CAGGTTCTAA
16851 AGTTCACAAG TTTGATCTGC TTTGGGATTA AGCTACCTGC TAAACTACCA
16901 CACGCCATCC AGTCAAGCCA TTTCTATTAT GTGCGTATGG CTGATTCTTA
16951 TCACAAAAGA TCAAGTTAAT GATTTGCAGT CTTCGGCAAG CCTCTGGTTT
17001 CTTTGAACTT GCTTTTTGTA AGCGATATTC TCGGGTACTT TTTGTGCTTG
17051 TGAAGCTACT GCAGTGCTCT GGAGATTTTC TTTGTGCTCC TGGCTGTCAG
17101 AGTTATCCAT TTCTAGGCCT GCTTGGCCAT CCCCATAGCA CGGGGAGAAC
17151 CGTACTTTCC CATTGCCCTT GTACCTGCAC TTGTAAAAAC GCTAGAGGAA
17201 CTGAAATTAC TTCAAGTTCG TGCCCTGTCC TCTTTCAAAG CCATTCTGAG
17251 AACTTTCTTT GCACAACCTT TTTACAAGAG TTAAATCCGT TTCTAGTTCC
17301 AGGCAACACA CTTGTCATAC ACAGCGCTGG CAAGGGACTG CTGTTTATTT
17351 CTTGCTTGGA TGCAATTACA CAGCCATGTG CCCTTGTTTT CAGTCCCTGA
17401 TCCATTATCT TTGGCATTTA CTGCAAAGAA GCTGCTGTTA CGCAATGGAA
17451 ATTTAGATGA TCTCTTTTTC TTAGCTTACT TCTCCTCTAA CCCAAGAAAT
17501 GAGTACAGTA TAGCCTGCTG AATGCAAGGA AACCTGCACC TGCAAACTTT
17551 TCTCCCCACT GCGTCACTAC CAAATATGTC AGAGTTGCTT GTACTTCTTA
17601 AGTCTGTTTC CATCCCCTAA TGGCACGAAC CGTTGCCCTC CTGTTGTCAG
17651 ACTGCAAAAA GGCCAGCTTG TACAGATTTG CCCTGTAGGT TTGAATGGAA
17701 GAAGGGAAAA AAATCAGAGA AACTGCCAGC TTTTGTTCTG CCGCTTGTAA
17751 GCTTGCTTTG GTAGAAAAGT TGAAGAAATA GGAACATGCT TTGAAATAGG
17801 ATTTTAAAAG GAATCAGCTT CTTATCTTCC CTTTGGGAAA AAATAGTGTG
17851 AAGGACAGAA TAAATCAGAC GGAAAAAGAA AGAAATTGAC GTAAGAGAAC
17901 TAGTCGGGCA GAAAGGAGGA GGTGGAAAAT ACCCAAAAGC AGCAGGAAAG
17951 AGGGAGGCAC AGGTTGCCAA TTAACACTTC GATCAAAGGA AAGGCCCGAT
18001 CAAAACCTTT TTCCTCCTCT AAGAAGCATC ACCCCTTCCC ACTGCTTACT
18051 GCAATGAAGC GAGCTTTTAG ACTAAGACTC AAGAGAATAA CCCCAATACC
18101 AGTAAAGCCT GCAGAACTTG TTTTTTTCAT AGCTGACACC ACAGACAAAC
18151 AAACAAATAA ATAAATAGTA GCGCAGAGCA TCAGCACCGT GGCAGTCATT
18201 CCAGCAATCA CTTCCCCACC GTGCTCTCCT ATAGGAGAGC TGCAGCACAG
18251 GTCAGCGTCT CCCAACCCGT GCACTTCTTC ACGGACAGAT TTGCATCATG
18301 CAGACCCTCA GATTGCCCAG GAAGAACAGA ACTGCAATGC CCAGAAAGAG
18351 TGTGGAAGCT CTGAGAATTT ATCTGCCTGC TGGACAGAGC CCATCTACAC
18401 CTGGAACAAG CGGGCACCTC TCTGTGCTAC CAGTGCTGGG TAAAGAAAGC
```

Fig. 1-7

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18451  TGTGCAGCAG  CTCCTCCCTG  AACACTGGCT  ACGTTGTGAC  ATCAGCCCTG
18501  TGGTTCCTGT  GGCAGCTCCT  GCGCTTCTGC  AACTACATGA  GTCTAGCTGG
18551  CAGGCCACCT  GCTTGTTTCC  ATATCAGCAG  CAGCCACGTG  CACCATGTGC
18601  ACCATGTGCA  GGGGGCCTCC  AGGCAGGTAA  AAAAAACAAA  CAAACAAAAA
18651  CATCTCTTAA  TTACAGGGGC  AGAGCAGGGC  TGGATACGAA  CAAACAAAAC
18701  CATACCAAAA  CAAGCACACG  TGTAAAGAGG  AAAAAAAAAT  AAAATAAATC
18751  ACAGCTTTGC  AGTTTGTCTG  TCTTCAGAGC  AAATCAAGGC  TGTGATTAAT
18801  TCGTTACACA  TCAGAACTCC  AAGCAGGCTC  AAGCTGAGCC  GTTGCAACTG
18851  GCATTATGAA  TGGCACACTT  GAAAAACAGC  CAGGTTGCTT  TCCAGATTCA
                                         CR1-GG
18901  TGGAATCATA  TCATAGAATC  ATAGAACGGC  CTGGGTTGAA  AAGGACCACA
18951  ATGATCATCG  AGTTTCAACC  CCCCTGCTAC  GTGCAGGGTC  GCCAACCACC
19001  AGACCAGGCT  GCCCAGAGCC  ACATCCAGCC  TGGCCTTGAA  TGCCTCCAGG
19051  GATGGGGCAT  CCACAACCTC  CTTGGGCAAC  CTGTTCCAAG  ATGTTAGCTT
19101  CTCTAACATC  TTACCACAAC  ATAATAATGA  AGAATATTT   AAAAAATCCG
19151  TGATGGGTAG  GAACTTCCTG  GCTGCAGCCT  GTGCTCCAGC  CCTCAGGTGG
19201  TGGAAGGAAA  TAATCATTTC  TAGTTGGAAT  TTTCATTTTC  TTTTTTTTTT
19251  CCTCAGCTTT  CAAGTAGGCA  AACAATTCAC  TTGTCTTCCA  GAGCTCAAAT
19301  CACTGCTGTA  AGTAACAGTT  TTCATTTGTC  ATTTTTATTT  CCTCTGTGAG
19351  ATGGTGATAT  TTATAGCAAC  ATTCTCGGTC  CCTTGCTTGG  ATGACTTGTG
19401  ATTGCTACGG  TTCTTGTAAC  AGCATTGCCA  GAACAGTAGC  AAAAGGCAAC
19451  TGCTCCAGCA  CCGGTTTTTG  TAAGCCATTA  CCTGTAGACA  CTCATCTGCC
19501  TACAGTAGTA  TGAGTCAGTG  GAAATTACTG  TTTATAGTTT  ACAGACCACA
19551  TGTGACACCG  AGCATGTTTG  AAAGCAAAGT  CCCTGCCTTG  AATAGCTGAG
19601  ATTTAAATTA  GCTGAGGCAG  CAGAGGAGGA  GGGAGGGCAA  GCAAAAGCAG
19651  GTCTTGCCAA  TCCATGGCAT  GGTGCCTAGT  GATAGGTCAC  CAAGCAGGAA
19701  AGAAACCCA   ACCCTGGCTT  CATTATCAAC  ATCAGGCCTA  TGCTCAGGTG
19751  CCCGTGACTT  ATTTCCTGAG  AAGTCTCAAA  ACACGACCAA  CACCTGTTTG
19801  AACTCCTATA  AGAGAGCTTA  GCGCCTGCTA  TGATGCAGGT  AGGATACTGA
19851  TGTTTATTTT  CATTACTAGT  GCGTGACACA  TCCAAAGAAA  TTAGCTGTAA
19901  AATGTCTAGT  ATTCCTGCAA  AAGAACGTAA  CAGATCCTGC  ACGTGGCAGG
19951  TACCATGCAC  AGATGGCACC  AACGGATGGA  TGCTGGCTTC  CTCACACGTT
20001  GAGTTGTTGT  GGAGTTGCTC  TGATGAAGGG  GAGCAGCATT  TGTGAGCATT
20051  CATTCATGGA  GCTGGAGTCT  CCTAAGCAAG  GTAACGAATG  CAAAGGTGGG
                                         CR1-GG
20101  AGTGTTCAAG  TGGCCTAGGC  AGGCTTGGGC  AGTGAGCCCA  GGTGAACCTC
20151  ATGAAGTCCA  ACAGAACCAA  ATGCAAGATC  TGGCCTCTGC  ATTGAGGCAG
20201  CTCCCACTAC  CAATACAAGC  TGGGAAAGGA  CTGAGTGCAG  CCCTGCTGAG
20251  GAAGACCTGG  GGGGTATTGG  TGGTTGGGAA  GCTGGACATG  AGCCAGCAAT
20301  GTACCCTCAC  AGCCCAGAAA  GCCGACTGTA  TCCTGGGCTG  CATCAAAAGT
20351  AGTGTGGCCA  GCACAGCAAG  GGAGGTGCTC  CTGCCCCTCT  ACTCTGTGCT
20401  GGTGAGGCCT  CACCTGGAGT  ACTGCATCCA  GATGCGGAGT  CCTCAGTACA
20451  GGAGAGACAT  GGACCTGTTG  GAGCGCATCC  AGAAGAGGAC  CACAGAAATG
20501  TTCTATGGAA  TGGGACACCT  CTCTTACAAG  AACAGGCTGA  GAGAGCTGGG
20551  GCTGTTCAGC  CTGGAGAAGA  GAAGGCTGTG  AGTTGACCTG  ATAGCAACCT
20601  GGCAGTATCT  AAAGGGCAGC  TACAGGAAAG  AAGGGAACAG  ACTTTTTAAG
20651  CAGGGTCTGG  TGTGATAGGA  GAAGGGGAAA  TGGTTTCAAG  CTCAAAGAGG
20701  GAAGATTTAA  GTTAGATATA  AGGATAAAAT  TTTTTACAGT  GAGGATGGTG
20751  AGGCACTGGA  ACCCAGCGTT  GTGGTTGAAG  CCCTGACCCC  TGAGACTTTC
20801  AAGGCGAGGC  TGGCTCAGGC  CCTGGGCACC  CTGATCTAGC  TGTGGTGTCC
20851  CTACGCACTG  CAGGGGAGTT  GAACTAGATG  GCCTTCAGAG  GTCCCTTCCA
20901  ACTGCAAAGA  TTCTGTGATT  CTAGTAAACA  GAAAGCGTAC  AGAACAGTGA
20951  CCTAGTCAAA  AATTGACTAT  CGGAAGGGCG  TGTGGGTAGA  GGTAGGCAGG
21001  CAAAACTGTA  ATTAGGTCAA  AGAAAAATGA  CAGGACAAGC  TTATCTAATA
```

Fig. 1-8

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21051 TTTGGGATGT CAGTAGCCAA ATGCCAGTAC AGAGGATGAA CAGCAACCAT
21101 TAAGAATTTT TTACACAGGT AATTCTGACA ACAGAGAATT TGGGGAGTAA
21151 TAATTGAAAT ATTATTGGTA AAACGGTATT TTTAAAGAAA AATCAAGGTG
21201 AGAGCACAAT AGCTACAACA TAGACTACCC GCTCAAGAAT AGAAGGAGCA
21251 ATGTTTTGAT AATAATAAAG TAGCTGTTGG AAAAGCAGCA AAATTGGAAG
21301 CAAACAGTCC ATCAAGTGCT TGCAATAGGT TATGTAAGTT GTGTGAATGG
21351 CTCTAAGTCA GCCATGATTA CTAGGATGAA TCTGGTTAAG ACAAACATGT
21401 ATGGAAGCCA ACCATGAAAC CACGGTCATC ATTCTGGAGG AAGGAAGAAT
21451 TATGCAGCAA AATCAAGGCA TTCCTGCATA TTTCAATAAT TCAGAGCTAT
21501 TAAAAGCTC CCTGTCACGA TAATCTTCAG AAATAATGTG AAAAAAATAC
21551 ATAGCGGAGC AAATTTTCAT TAGGAAGACA ACTAAATAAA CACAAAAGT
21601 AGATCAAACA ATGGCTCAAC AGAATATTTA AAGCAGTTTC TTTGCTTCAG
21651 CTGCCAAAGA GCAAACTACG ATCAGGTGCA GCTGACTGAT AGGAGCACAA
21701 AAGCTGATTC AAGGGTATCT GCCCAGACGA CGTGTCGACA TGTTCTGCTC
21751 CACTCATTAA AACAAAAGCA GTCAACTCAA CTCTGAAGGC TAGTAGTTGA
21801 ATAATAATAA TAAAATCAAA ACCAAACAAA CCTTACCAAT CTCTAAGACA
21851 GACAAAACCA GTACTTAAAC CAGGGAAGGG ACAGAACTCT GGATTCAGAG
21901 ATTAATCAGG TGACGTGGGC AAAGATACAG CCAGAGAATT TAATGAGTTT
21951 TTCTAACTCT ATGAAAATAT GTGTTGAGAA AATCCACTGT TAGTCAATGG
22001 GAAGAAACAT CTGTGAAGAA CAAAGCAAGC AAGCACAGAC ACAACTGATT
22051 TAAAAACTAT TTTACCCACA GAACATAATT TTTCATACTG CAGTCAGAGG
22101 TAGCAATAGC ACTAGAAGTT AGGAAAAAAA CGTAGGCCAA GTAGTCAAAG
22151 ACTAGTCACA GCTGGCAGCA TGAAAGATAT GCAAGTAATT TATCCAGTGC
22201 TTAGAGGCTG TGGTTATATA AAGCAAATAT AACCTTTAAT CAACTATAAA
22251 CCAGGCAGCA TTGTTTAGAG TACATAGGTT GCTCTGAAAG TAACGCCTCC
22301 TATTTATTTC CACAGAAACT ACAACTGATA CGAAGAGCAT AACAACACTG
22351 ATAGAGCATA TTCCCAGCTA CAAAACACTA CTTTTCAACT CAGTCATCAC
22401 GATTAGCTCT GCATTTTTGC CAGCGATGAG TGAGAGCCTG CATGCTACGC
22451 GCACAGAAAT CTGCACCAGT GGAGGTGCCC CACCGTCACT GGTGCTGAAA
22501 TGCACCACCC ACTGCCTCAC CGCGCTCACA TCCACTGCTT GGTCTCCATA
22551 AATATTCAGC AAGCATTGAT GAATGTCAAG AGGTGTAATT TTTTCTGTGT
22601 GGAGGAATTC AGTGACACCT CTGCTTCATT TGCGCTTCCA GCCAAATGCC
22651 ATTCTGTCAT GCTGCCTCTC TGCTGCCATC TGTCGCACAG CCAGAGCACA
22701 TAATGGAATA CTGGTAGGAA GGTTCAACCA CTACCGCCAT ACCACCAATG
22751 ACACCTTGGG CTGATGATAT ACTAAAATAA ATACTACCTT TGGGGTAGCA
22801 CTCATAGTTT AGGTTAACCC TGAAAACTGA AGTAAATGAC ACCTCCCCCT
22851 ACCTCCCGCA GCCATTTAGC TACATCTTCT GGGATAACTT AGCTAGGAAT
22901 CTGTGATAAT ATTTCAACTT ATCCTCATTG TAGAAAAACA GCAGAACAAA
22951 AGGTTATCCT TAGAGCTGCA GTTCTAACCG GCAGTGTTTA TTTGGAATAT
23001 TTCTAAAAAC AACTTGAAAC ACCAAACATT AATGTTTCCA TTTCCATGAG
23051 CAAGTAGCGA GATGCAAGTT TAAAACATAC AGTATATTTT TCTACGTTAA
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23151 CCTACGACAA CAACAAGAA ACGCATTTCC TGAGAATTTT AAGATTGCCA
23201 TAAGGACTGT CATATAGGAC TGTTATAAAG GTCAATTAAC AAGTAATTCA
23251 GGCAGTAGCT TCAATCCTCC AGGTGAGAGC CCTGCCAGTG CGTGGCTCGC
23301 TTCTGAAGTG TTCACCAGAG GCAACAGAGC AAAGAATCCT GCTGCAACTA
23351 AGATCAAGTT TACAAACCAC AGTAACTTGC ATCTACACTT GAATTTCCCC
23401 CGCTTGCCCA CAAAGGTCCA CAAAAAGATT TGCAGCCCCC TGAATCACAT
23451 TCACATTTTC CAGTGCGAGA CCGAAGTAAA GCTGCAAAAC TGAATGACTT
23501 TGGAAAGAAC ATTTCATTAT GTTAGCAAAC AAAAGCTCAG CACCTTGCAG
23551 ATCAAAGAAT TTGTATTTAA GTGTTTTGTT TAGCTGTCAA ACGTAGAAAC
23601 AAAAGTCTAA ACAAAAGTGA TAGTTTTGAA AGTAACACTG AAGAAATACT
23651 CAAGAACATA ACTGATGTTG TACATTTTAC TTCATTTAAG TACAGCAAAT
23701 TTCACCCATC CTATGATTTA TCGAGTACGC AAAATATGTA CATAGAGGAA
```

Fig. 1-9

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23751 ACCAAAACCC ATAAAAAGAC AATCATCTAT GTGCATATGC GCATGTAACA
23801 TATGCACATG AAATGTGCAA TTTTCTTTTA ATGCAAGTTA AACAAAGCAT
23851 ATGCACAACA GAGTTGCACA ACCATTACAG AACAGAGTGT TCTGGGTATC
23901 CTCATGATGT TTCGCATCTA CAGCCAGTGC AAACTTACAA GGCACAAACT
23951 CAGTGCTGAC ACCGTAGTGT TGTAAGTTCA GGCACATTTC AATTTGTAGT
24001 TCTTAAAGAT AATAATCAAC AGAAGTGCTA CTTCTGTACT AAAGTGCCAG
24051 CCTCTTCCCA AAGATTAAGC ATTAAGTTGA TGTAACCTGT ACACAGTAAT
24101 GATCAGCGGC GTTCGGATTT AACCTAACCT ATCACTGCAA GGTCTGTGGC
24151 TATATCGTGC TATGCGCTCC ACACCTCTGA GGGTATGCTG CTTCCCAAAA
24201 TGCCTCCCTC ACACTCTTCA AAGACTACCC ATACCTCGCC AGCCTTGACG
24251 CGTGGACTCT TACAGGTTAC TACTCAATGC TTTTTCCTAA CCTTAGCCAA
24301 ACCTCTGATA AAACCAGACT TAAAAAATCA GCCATCGGGA AATCTTTCGC
24351 ACACTTGCAT TTAACAAACC TTTGCTCAAT TGCATAGTGA CATGTGTATC
24401 AGCTAGGAAA GAATTAAAAA CAAAAGCTTG CTGCTTAAGG CAAAAATTTT
24451 TAACACAGCA CAGCAGAAAA AGCCAAATAC CGGGTTCATC AGTATTTAAA
24501 CAAAGCACTG GCTCATACAG TCTTCTCCTC ACAGTGTTTT CTTCCTTACT
24551 TTCACAGCAA ACACACACAG TATGCTCAAT TAGCAAATTT TGTTGCATTT
24601 CTCTAAACGG AGTGATTAAC ACATAGGCTG ACTGCTACTG AAAACACCTG
24651 ACAAATCGCT TCTCTTGCAC CCTCAAAAAA GGGTTTCTTT TTGAGCCTAC
24701 CAGAAGTTGA AAACCCGCTT GCGCCCAGGT CTAATATAAC AGCTAAAACT
24751 GATCATTTAA AAATTACAAA TATTTACCAT GAGTTGCCAC ATCACTCTGC
24801 TAAAATTGTG TTTTCCGTAT TATTTTCCAA TAGAAGACAT TTAATAGACA
24851 TCTGAAGAAA ACAATACAAT ATAAAAGCGT AAGGGTCTTT GCAAACAGAT
24901 CTTCTATTCC TTCTGCAAAG TAAGAAAGGA GAGAGTTTAT TGGCATTTAT
24951 TTGCAGTGCC ATCGATAAAG ACACGAGAAT ACTTAAGAAA GCAAAAAGTT
                                          R gene exon 9
25001 CTAGTGATCC ACAGACATCT TTGGCTTAGC CTTCCTGACC AAAGTCTTCT
25051 GTAAACTTCT TTAACTTCTC CAGGTCCTGC TCATTAACTG TTGGCTTTGT
25101 GCTAGCTAGC GACCTGAGCA TATCGGCCTG TGAGAAAGAA AGCAAGAAAA
25151 CATGCATTCA GAAAACGTAC CGCTGCTAAC AGTATTGCTG TGAAGAAAAG
25201 TAAGCTTTGA AAAGCCTTTT AAAACAAGTT GACTGTAGGA ACTCTTATTG
25251 AAACAAAACT TCGAGTAAGC CTGAACATTT CTGCACGTGG ACCACTTTTT
25301 AACCTCCTGA CGATAGACAA TTAGTGAGTT TTTACAGGAC TTAAGCCACA
25351 ATCTGAGGTT CAGCTTTAAA ACAATTCATC CATTCAACAA GTGTTATCTA
25401 CCACTGCTTA CTGCAACAAA CTGAGCTTCC CATCTTACAG ATTCGTATTC
25451 CAATTCACTT TTAAGGACAT CAGGTTGAAG TGGAAAACCA TCACACGTTC
25501 CCACATATTC CAATGCCCAC CAACACAGAA TACTTCATCA TTGATCTCCA
25551 GCAAAGTTTT ACTGCTCATG ACTGCTAACT TCTGTTTCTT CAGCTCAGTC
25601 AGTTTTGTAT ATTTACATTT GGCTACTAGA AAATGGAGTT CAGAAAAAAA
25651 AACCACAGAG GTATGAACTC AAATTCAGCA GTTAAGAAAC CTTATTAAAA
25701 AAAAACGTAT ATAAAAGTC CTGGCCAAAG GCAAAGCGAG GAGCTGCTCA
25751 ACACCTCACG TTACTATAAA AGCACAGGGT TAAGTTAAAG TCAGCATCAT
25801 GATTTTCTAG GCTTTCTCAT CTCATCGTAC TACAGACATC CTACTTAGAA
25851 AGAATTCAAG TCTGATCTTT TTAATGACAA GAACTGATTC TGGACTCTGA
25901 AATAAGTCCC TGTGCAACTG TAGCACATCA GAGTCTACCT TCCATTAGAA
25951 GCACTGAAGG AATTGTATTT AATTCCAGGA AAGACTGATG AAAAATCCAC
26001 TTAGTTTACA CAGGCAGAAG TTTTAAGGCA GGCCTGCACT TGCTTGCATC
26051 TTTTCATGCC TCCTCCATGT GCAAATATGC AGATATTTCT CTCCTCAAAC
26101 TAGTGATGGT TACATGTGCA AAGCAGTGCA CTCTACTTTA GAGGGTTTTT
26151 GATCCCTATG CAACACACCT TCCTTTCATT CATTACAGAA ACGTTTGCAC
26201 ACAGGAATGG CCATCAGCAC AGATCTGATA TCGAGTCCTT CCTTCAGACA
26251 ATGCAATTAC ATTCAGAACC TTTTGCTGCT TGAGGGTAAA ATATACGAGT
26301 GCTCAATGAT TTGTAACCTT TTAAACAATG TATTTAAACT TCAATTTCTC
26351 TCAAATATGA TGTTTTGGTC TGTAGACAGA AGCAAATATT TTAACATATA
```

Fig. 1-10

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26401 CAAAAAATTC CAGCTGAATG TTAGCAAGAG CTGGCTGCAT CATCTGTGAT
26451 GAAGTATAAT CCAAACTACC ATTGCATCCA CCAGCTTTTT ACATTGCATT
26501 GGTTATGCTT GCATTCTTT TGTGGGCAAA ATTTACCTAC AGCATGTTAT
26551 TCCCAGTTTA CACTGAATAT AATTTCCCAC TTCTCGATGT CAATAATAAT
26601 GCTACAGAGC AACAGGAAAG TAACATATCG TGGGGCAGGG ATTCTGAAGG
26651 TTTTAAATGA ATAAAGAAA AATTAAAGAA GGGAGGAAGA TTCAGGTGCT
26701 GTCTATACTG CATGCCACTA GACAATAATA AATGCTTATC AGGGATGGAG
26751 AGCTGGCTCG CTGATAAGCA TGTTGTATTG TCATGCTGTG TGTTGCGATT
26801 AAAATGTCAT CCAGTATGTC CAAGCATGTC TAAAAACAAA GGGCTCAGCC
26851 AATTGCCTTG CATGCTGGCT CTAAAATGTC TTGAGTATTT TCAGGGTTCT
26901 GCAAAGCAAG AAACACCACC AAAAAATAAA AAAATAAAAA CAAATACCCA
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27001 GTCATTTCTT CAGCTTCAGG ATCACCTGGA GAGCAAGGAG TGAACAAATC
27051 TACCATGATA TTTGGATTCG TCACTGATGG TCCTTTTACC TAATAAATGA
27101 ATACATAAAT AAATAAAATA AACAAACTGA AGCTGAACAT CTTTAGAGCA
27151 AAAGCATACT CTTAATTTTC TGTACATGCC CCACCCGTTT GGAGTTGTGT
27201 AGTGAAGTGG AATTGTGTAA AGGTGCTGGC ATCGTTCACT TTGAAAACGC
27251 ACAGCAGTAG TCAGATACTT GAACTCATAC CATGTCAGAA CCAATGAGCC
27301 TTTAAGGTAG GAATGCTTGT AGAAAGCTAA TGTGCCAGGT CTACTGTTTG
27351 GAGAAGACCA CTCTCTTCTT AGTCCTCAGT CACTTTGGGA GTCCATTCAC
27401 CACTGGTTAA CATTTCTAAA AAATTCTCAG TAGTTATTAC TGACTGACCC
27451 TCAAGTTGGG CTGCCATGGG TGTCCTTTTA AGCTTCCACT CACTGCACTA
27501 AAAAGTTCCG GGCACCTTTT CTGACACAAT CTCTAACAGC ACTTGATAGA
27551 AGATGGGGCC ATCTAGTGGA GGAACAGAAA CCATCCCTTC TTCCAGATAC
27601 ATAGACAGAA CCTGAAAAGC TCCATCAGCT GCCTCTTATC TTTTTGCAAT
27651 GCATATCTCA GACCTGTAGT TCTACCATCC TTCCTTTGTC AGTCACTGAA
27701 GTATCACACA TCCCCATGAA CACAGAACAC ATGCAAAGGC GAAAAAAGAA
27751 CTGCTTTTAA CAGCAGAGAA CTGGATTTGC TGTTTCAATC TGCTTTTAAA
27801 GCACAGCGAA GAAAAGCATG GATTATAATA CTGGAAACTC AACTTGGACA
27851 AACCGCTATC AATAGGCTGG AACAAGCAAT GGGTTACAGT GAGTTACAGA
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<div align="center">CR1-GG</div>

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27901 AATTGAGCAA AACGCTACAA ACAGGAGGCA GGGGCAGATG GCGATTGGGA
27951 CAAGGGGGAA TAGTTTAAAC CAACAGAGGG GAGATGTAGG TGAGATGTTA
28001 GGAGGAAACT TCTTACTCAG AGGGCAGAGA GGCGCTGGCA CAGCTGCCCA
28051 GAGAAGCTGT GGTGCCCCAT CCCTGGAGGC GCCCAAGGCC AGGTTGGATG
28101 GGGCCCCAGG CAGCCTCAGC TGGTGGGGGG CAGCCCTCAC CATGGCATGG
28151 GGTTGGAGCT GGGTGGGCTT TGAGGTCCCT TCCAACCCCC AACCATCCCA
28201 TGATTCTATT TAACTGGGAC AAACTGCTAC TATGGAAATA GTTAATAAAG
28251 CAAAGGTTTT TCTTATAAAA ATAAGAATCT GCATCCAATT AAAGCACAAA
28301 CAAAACAAGT GGAATAGACT TGCATCAGAA CACTCAAAGC ACGGTAGGCT
28351 TTTTTTCCTT TTTGGCAAAA GAGGTAAGAA TTGCCTTTGG CTGCTCTGCA
28401 AACTGTGGTA ACTGAGATTA TTTCATTGTT CTGTGGCAGG CTGAGGCACG
28451 CCTCAGATGT CTGCAAATTT CAATGAAAGG CTAAAATGTG ACAACCCATT
28501 GGCCAGAAAT GCCATCATTG TATAAAAACA ACAATGGATA AATACTTCAG
28551 GCATCACTGC TTAAGGGAAG GAATAACCCA GAAAATCCCT GATATATCAA
28601 AATAGCCGCT TATTTTTTAA GCAAATACAG TTTACAACAG CTCAAAATAC
28651 TGTTTCAAAA TGTTCTTTGA TTTTAAACTG GGAAAAGTTC ATCAAAATAC
28701 CTACCAAATA TTCTTCCTCA CCACCAAAAT TACAGACTGC TGGCGTATTT
28751 TAACAAGTTG ATAAGGCTTC CTCACTGCAA GCACTGGAAC TTTAACAGAT
28801 CTCTTACATT CTGAACCATA TTGTATTTAA GCGTTCCTTT CCCTTGGTGT
28851 CTTAAGCTGA ATGTGTTCCT TACAATTACA TGGAGAAAAG TGCCCACCTT
28901 CAGTTCACAC TGACTCTAGC TGTTCAGCTG AGGGCTCTGG ATGAGTTACT
28951 GGTAAAAAAC TAAGAAACTG TCATCATAAC TCATGAGCAA CAACTGCTGC
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<div align="center">

Fig. 1-11

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29001 CAACACAAGT TGCGTGTATG ACACGCAGAG CAATAAAATG AAAGCTCTGA
29051 AAGCTTCCCT TTCCAGAGTC AAAAGTCCCT GCAGATAACA AGAATCCACC
29101 TTCACCTGAA GTTTGTGAAT TTCTGTGAAA ACAAAGTCTG CAGTACAAAT
29151 GTAAACAGAT TATTTTAGTT TCGCTCTCTA AAACCAAAAC AACAGCAAGA
29201 AAAAACTAGA CAAGAAAAAT ACTATCATGT TATTTATAAA ATGTAGGCGA
29251 AACTCCAAGA TAAGCAAAAA AAAAAAGTC TTATCTATCT ATAGTTACAC
29301 TCTTTTTAGA CATCAACTAA GTGTAAAGTA GTTTTCACTC TACAGCAGCA
29351 TCCATAAGAT GTTCCTTGCT GCCCCAGCAA TGACAACGAC CTTACTCAGC
29401 CGTCTTGCAT CTTAACTACT GTGACAAGTA ACATTAGGGG ATTCAATTTT
29451 TTACTGGAAT CTTAGGATAA TCTTAATTTT ACAGTTTGAA GGACATCCTG
29501 AGCAAACAGT TGTGCAGTTG TAATTCCTCT GTTCCCACGT AGATAAGGAA
29551 TACGTTTATT TACACACATG CGCTAGAAAA ACAATTACGT AATTTGATAT
29601 AGAAGAAGAG CACCACTGTA AGACTCCGAT TTAAGTTGAA CTCCAAACCG
29651 AATGCTTTTA ACAGCAGTTA TAGACGTGAA GATTGATTAG AGCTTGGATT
29701 ACACAACATG AATACCTAGA GATGAGGTGC ATCAACTTAT GGCAGGAGTA
29751 CTCCTTTGGT AGGTAATGAA GAACAGCATA CACACATCTG TAAGCACACG
29801 GTATTACCCC AAACCGAACT TGGCTTACTT ACAACAAGTT TTCAGATCAA
29851 GTTAATTCTC AGAGTTGAAG CAATATGAAA AACGTTTTGT TTTTACTTAC
                          R gene exon 7
29901 TTTTTTAAAG TGAGTAGCTG ATTGCACTTT TCTAACAGGT TGCATCAGTG
29951 CATCGCGTAC AATGATGCTT ATATCTGCAC CAGAATAGCC ATCGGTTCTT
30001 TTCCCAAGCT CCCGATAATC TGCTTCTGTT AGGAGATTGG GAGTCGACCC
30051 GAGGTGAAGT TTGAACATGG CAGCCCTGGC ATGGTCTTCA GGTAAAGGAA
30101 TATAAATTCG CTTCTCAAAC CTGGTTTCCA AAAGATAAAA GCACTGGCTC
30151 ACGCAGGTGC ACGATGGAAA GAAGTTTATG CAAATCAGTA TATACTTTGT
30201 TTGTAAATGA AACTGCTTTT TTCTTATGTA TTATAAATGT TTAAAAATAT
30251 ATATCTCAGA TATTCTGCAG CCTGTTCTCA TAAGTAATAC CATGGCTATC
30301 ATAAGCTAAC ATCTACAATT TAACAACGAC TTCCTTTTTA TGACAGAAAG
30351 TCTCTTCAGA CTGTAGTTTC TCCAGGTTCA CTCCAGAGAA GTTTGTTTTA
30401 AAAGAAAATA ACTGAAGGAA AAGGAGTCTT TTAGTTTTTA AGTACATCTG
30451 AACAGTTTTC ATAGAATCTT AGAATCGCTA AGGTTGGAAA AGACCCACAG
                                                        CR1-L
30501 GATCATCCAG TCCAACTATT CACCCATCGC CAACGGTTCT CACTAAACCA
30551 TGTCCCTCAA CACAACATCC AAACATTCCT TGAACACCTC CAGGCTCGGT
30601 GACTCCACCA CCTCTCTGGG CAGCCCATTC CAGTGCCTGA TCACTCTTTC
30651 AGAGAAATAG TAGTGGTTTT TCACACTCAA AGAAAGAGCT GCCCGATAAC
30701 ACGTTCACAC AACCAGTTTC TAAAGTTTGT AAGTAGAGAA CGTTGTAGTT
30751 GGAAACGAAT TTGAAGTCTT ACTCTCAATA TAGTTGTTGG TAGGAATGGT
30801 TGATACTTGC GGTGCTTCCT TTGAAGCATC TGTTCTCAAA GAGAGGACGA
30851 CCTCCCATCA GGGAAATAGG ACCGACTCCA AGTTCTGTAG AACACTATTA
30901 ACTTCCTATA GGTAAGTGGG CCCAAGCCAT GAAAAATTAA TTCTGTTACT
30951 GCCACGCTCT ACAAGCTCCT TTAAGTTTTT CGGACAAGAA TGAGAGATAC
31001 TCGTTCACAC TGCAAAGAAT GACTTGAAAT GTTAAGTACC ACATTCGCCT
31051 CTTATTCCTT GTATGAAACT ACACATGCAC AGGATGGAAG CGACCTCTGG
31101 AGGCCACATG GTTTAAACTC CCCAGTCAAA GCACGGTCGA GTTGAATTAA
31151 GTACATCGAT AAAATGACAC TGTCACCAAA AAGGATTGTT TCTTTAGCCT
31201 ACAAAAATTA CCATTATACA GGTTGTATCA TCATCACAAC ATAATCACAT
31251 TTGTCACGTA ACTGTGTTTG TCCTTTGCTG CTCTGCAACT GAAAGATCCA
31301 GCTAATCAGA TACAGATACA AACGTCATCC CATTAGAGAA AGGCAGTTGA
31351 AACGTACACT GAAAGATCAC ACAAACTGTG TGACCAGTAC AGCAAAAACA
31401 ATGCTTCTGC ATTACTTAAA TTCTGTGAAA TTACTCAAGC TATCCAAGGG
31451 TTTGCTAAAG TTGAAAACGA TAGCTCTGCT GCCTCTTACC CTTCTGACTT
31501 GCTTATGTTG TACCTTGCCC CCCATGCTCA CCAGGAGACC AGTCAGCAAC
31551 GAAACACAAG TTTTTTGCTT AGTCAAGTGG AATTAGCTGA CTAAGAGATC
```

Fig. 1-12

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31601 AGACAGACTA CAAGATATAC ATAAGAGAGA ACAATCCACC ACTTAAGTGA
31651 AGGGGATATT TGACTCAGTC CACCTCATGA GACATGCCTG CAAGAATCAA
31701 GTGGATCACT CACTCAAATA GCCTCAGGAT GAACCCTCAC AATAGTTGCA
31751 AATTTCTTAG CATAAACATG AATACATCAA TCATAGGCCA ACATACCTTC
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R gene exon 6

```
31801 TCCTGATAGC AGAATCCAAA ACCCAGGGTA TGTTTGTTGC TCCTAAGACC
31851 AATATTCCTT CATTATCAAC ACCAACCCCT ATACCAAGGA AGAAATCATT
31901 TCACCATTTA GAAAATAAAC AGAGACTGCC TGATAATGTT TTAGAACATT
31951 TACAAAACGC AAGGGGGTAA AGCTGCACAT CTTTTCACAT GTAAGCAATG
32001 CATTTTATGC GTAGCTGAAC TCCTTTGATT CTGAAAACTA TTAAACTTAC
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R gene exon 5

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32051 CTTGCATCTG GACTAGAAAT TCCGTTTTAA TCCGTCTAGC AGCCTCGCTT
32101 TCATTTTCAC TTCTTGACCC ACATAGTGAA TCTATCTCAT CAATGAAGAT
32151 AATAGAGGGC TTGTTTTCTC TGGCAAGCTG GAATAGGTTT TTCACTAATC
32201 TTAAAAAAGG AAACAGCTGC AGTTATCTTA TTGTACACAC AAGCAAAAAC
32251 ATGCAACTTT GGATTATGAT ACAGTGACTT TGTTAAGAAA AAGCTAAAAG
32301 TAAAAAATAA AATGAATCCC ACATAAGATA TTAACAAAGC TACTCAAAGA
32351 TACAACATCC CTTCAGAACT ACTAACACAG CATTAGGCTG AGATGCTGAG
32401 TGAGATACCA CAGAATAAGG TAACTTTAGG CTTCCTAGTC TTGTTAACAC
32451 ATCTCATTGT AACATGCAGA GTGGATATAT CAAAGGCGCT CATCACTTCC
32501 AACCCATATA TGCCCATCTT TTATGTCTTC AAGATTTTGT TTGAAAACAG
32551 AATGTAGAAA AAAAACCTTC ACACAGAGGA AGAAACAACA TGTATTATCT
32601 GCAGGGCTAC TGCAACAGAT GAGCCAGAAG GTGACAAGAA TCAAAGTACC
32651 CCAACACTTC AGACCACTTT GTTGTACAAT CACAGCTGGG TTCAGAAGGG
32701 CATTGATCAC CATTGTGCTG CTAATACCTT TGTCCAAACT AGTTTTAAAA
32751 ACAGTCTTGA GTGCTGAAGC TGCTGTAGCA CAAAATACAG TGCATTATGG
32801 TACTTTTACC TGACACTGCA CTGAAGCAAA GAAACATCTA AGGTTTGCTT
32851 TAACAAGACA CATGAACCTT CCTTCCATTT AATTTCTTTA GAGTGTCCTA
32901 TCTAGCTCTG AAAAATTAAT TTCCTCTTGA TAATATTTTC CTGGAACTCT
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R gene exon 4

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32951 GGAAACTCCA ACTTACTTCT CACTCTCTCC TAACCACTTT GAGACCAGGT
33001 CAGAGGAAGA TACTGAGAAG AATGTGGAAT TGTTCGCTTC CGTTGCAACA
33051 GCTTTTGCTA GATACGACTT TCCTGTTCCT GGAGGTCCAA ATAGAAGAAT
33101 CCCTCTCCAA GGTGTTCTCT TCCCTGCAAG AAAGAAATCA GCTATCATCA
33151 AAATGCTGTA TCAAGAGCAA GTCTATCTTT CTGATGAAGC CTCCCTAATG
33201 TACTAAGTTT TCTGTATGTA CCTAAGAAAC ACCTGTCAGA TCGATCATTT
33251 ACAGCTCAGC TGGAGCCTCT GATATAGCAG CATAATGCTC TTCTCAGACT
33301 CCGCTTACAC TACTCACTTC AACAGCAGTA TTTAGAATGG GAAATAAATG
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R gene exon 3

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33351 CTGTAATACT GACCTGTGAA CAAGTGTGGA AATTTAATGG GCAAGATAAC
33401 TGCTTCTTTA AGAGCTTCTT TGGCACCTTC AAGGCCAGCA ACATCACTCC
33451 ATTTCACATT TGGTCGCTCC ATAACAATGG CACCTATAAG AAAAGATTGG
33501 ATAAATCACT GATACGTATT TTTCCACTGT TTGCTTACCA TATATTTGAA
33551 AAAAGAAATC CACGTGTATG TTTACATTAA ATAAAAACGA GCCATTTCCA
33601 CACAGATTTC AGCATCAAAC AGTGCTACTC AAATGGATAT TATTTCTACA
33651 GAGATTTGGC AATCTTTTTT TCTTTAACCA CAATAAACCA TCAATAAGCA
33701 GAGAGTTGTT AGAAGTTCTG CAGTGTGCAA ACTAACTCTG CAACTGCGCA
33751 GAAAACATAC CAATGGCAGA TACAGAAGAG TACACTTCCT AAAAAGAGAT
33801 CAACATGACG TACACCCTGA TGAAGCAGGC CCACTACAGT AGGATGCACA
33851 GGAAAGCATG AGCAAACACC CTGCTGTGAG CACTCAGTGT AAAAAGAAAG
33901 CCTGGAGTAG AGACCAACAT CAATCTGTAT TGCATCCAAA CCAGAAGAGG
33951 CAAAAAAGTG TCTCACTAAG TTGCAGAAAA TGTGAACAGT TCACACAAGA
34001 CGGATTACTG TGGAGAGAGT AAATATGTGC ACTTTTTATT TTCCCCAATA
34051 TGTCACCATT ACAAAGGAAA ATCATGGAAT GGTGGAGGGT GATGGAGGCC
```

Fig. 1-13

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34101 CAGCCTGGGG CCCCAATACA TGCAGCAATG GACAGTGAGG TCACCGACCA
34151 AGCGGTTGTG ATGTCAGCAA TGGAAATGAC TGTGTCCTCG CTAGCCCTCA
34201 CTGTACAGAT TTGGGATCTG GCAGAGGCCA GCGTGTACTT GTACCTGGAC
34251 TTCTACTGAG CATAGCTGCG AGACTCGGAG CACTGAGCGA GTTGGTTGAG
34301 TTGTGCTGTG GGGCTGCTGG CAGCAGTTCT TGGTGCCCAC CCCACAGTAC
34351 CACCAACGTT TCCCCCAGCC CTGCCTGTCT CAGGCAGCTG GGGCCACACA
34401 GGGTGCACTT GTAGCAGCAG AGGTGAGTGG TGCAGGACAT GGCCTCTGCG
34451 GCGGCTGGTG GGGAAGTGGG AGGGTTTGCT GCTGAGGGAC CAGGACATCA
34501 CAGCTGCCTG CCCATGGGAC GAGTGACCAT GGCCTCTCTC TCTCTTTGCA
34551 GTTCGTAACA CCTTCTGCCT GCTGCAGTAC CTGTGAGGGG AGCAGCTTCC
34601 CGACCTCAGC TCTCCCAGCC CACCGCACAG CCCGGGGCCA TGGACGTGCC
34651 ATCTAACTGG ACCTGCCCCA TCTGCGGGCA AATTCGGGAG GATGTCACCT
34701 ATGTGACCCC CTGCAAACAC CAGCTTTGCT ACGGCTGTGC CATCTGGTGG
34751 GCAAACAAGA AGCCGAGTTG TGCCGTATGC GGGCACCAAA TCACCACCAT
34801 CCGATACTCG GTGAGGTCGG ACGACGACTA CCTCGAGTGT GCTGTCCCGC
34851 AGCCCGCAGC ACACTCTGAT GATAGCCTGC AGGATGAGCA GGGGCCTGCA
34901 GAGCCGGTGC TCATCCCACC TGAGCACAAC TTCCCTGCCG AGGTCTGGGC
34951 TGCCTTCTTC AAAGAACATC AGGGAGACCT CGAGCCCCTG CTCCACTGGC
35001 TGCAGGAGGA GATCCAGGAG GCGTCCAGCA GTGACTGGTG GGAGGTGGAA
35051 GTGGGACAGT GGACCACTGT CAACTTCCTC TGCGAGCACG GCCTGGACGA
35101 GGAGGCCTTG ATGCGGGAGC TGCAGCCGAT CACTAACGGC GATGTGCTGC
35151 CCTTTGTAAG GCAGCTCATC AGCACCGCTA CAGCCCTGTA CGGCCCAGCG
35201 ATCCGCCGCC AGCTCGACCA CCAGGAAGGC CGTGCTGCAG GACAGCGGGA
35251 GGACAGCCCC GCAGCCAGCC CCAGCACCAC CACCTCCCAT CAGGAGCCTC
35301 CTGCCTCGGG CCTGGGCCAC TCCACCAGCC CCGCAGGGCC CAGCACCGAG
35351 GAGCTGCCCG GCAGCTCTAC TGGGGGACCC GGGCACCCCA GCACCACCAC
35401 CGCGCCCTCA GCGGAGGAGT CGCAGGAGGA GCCATGGCAG GCGGTGGCAG
35451 CGGGCCCCTC CGCCCAGGGC AGGGACCGCT CGTGTGGGGG GCCCCGGCGC
35501 CCCCCGAAGA GGAAGGCCCG CAGCAGCCCC CAGGCCTCGC CCCCACCTCC
35551 CAAAAGGCGG CCCCGGCGGC GGCGCTAGGC TGGCACCGCA CTGCCGTCAG
35601 AGCACAGCGC CAGCGGGCTG GGAGGCCAAC ATCTACCTCT CGGCCTGCTG
35651 CTTGCTGGCA GAATAAACAT CAGTTAAAAC AAAGAAGAAA ATGTCTCTGT
35701 GTTATTGACA AGACTCTTGC TGTTGCTGTC CCTACCCATG CTGCTTTCTC
35751 TCTCTTCCGG TCCTAGAGGA GAGAAATGCA ACTTTATTTC CACCATCATA
35801 ATTCAGCATT CATGACAGTA CTAACAAAGC ACACATAGGC TCCAAAAAGC
35851 CGAAGATGGA CCCCTCATGT TGCTCTAATC ATAATCCAAC CACCAGGACT
35901 TGGCTAAATT CCTCTCCTAT TGCCAAGCTC TGGGCCACAG ATTACTTCGT
35951 TTGATTTTAG CTGCTGAGCT GTGGTGTCCC CCTCCCTTCA GACTTCCCGT
36001 TAGTCAGTCT GAAGATAAAA ACTCTGTTAC CAGATGACTT TTAGATGGGA
36051 CAGCTCACAT CTGAGCTAGT GACCCAGCTG CACATTTTGA AACCCTACTC
36101 AAGACAAATC CAAAAGGCAA GAGAAATCTT CCCAAATGAA TTAATGCCAA
36151 CTACCCCAAT GCTTATCTTT CTGTACTCAA GCACGGTGAA CTGTTCAGTT
36201 GCCATTTTTC TCTACAAAGG GCTTTCTATT AGTTCACAAC CAGTTTCTGC
36251 TAGCTATTTT CTTGTCACTT TCCCCTTGTG CCTTCAGAGC TCTGTGAATT
36301 GGTTGATGGC CATTTTCTAC AATGGAAAGT GTACCGCTAC TCGTGGCTAA
36351 CAAATAAAGC AAGTGACATT TGTTCACTTT TTGTCCATCT CCTTAGAGAT
36401 TTTTACTTTT CCTGCACGCC TTTCTCATCA GATAGAAAGG AATATTTTTT
36451 GCTTGCAATC TATATACAGG AATCCAGCCA CTCACTTTTA ATGCCCTCAA
36501 TACTTTTGCT AGGTTGATTA CAACTCAGTT TTTCCTGTAA CCAGGCTCCA
36551 TCACTAAATT AATTAGTAGG ACAAGTAGGA ACATGAGATT AGTTCCAAGC
36601 TATCAGTTAT GTGGACCTGG CATACTGTGG TAATTTAAAT TAGCACACTG
36651 TAAGACATTA CCCATACCAG GAAACAAATG GAACAGGACA TCGATCATGG
36701 CTTCCTCATT TTGTAGGTGT AAAAGAACAG CTGGAAGACT AAGCCAACAG
36751 AGCGCAAAAG GTCTTTAAAT ATCAAGCTAA GCCACTTCTT TTCTATGTAA
```

Fig. 1-14

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36801 AAAACTACTG CTAGCTGCTA TATATTGCAT CACTGGATGT GTACAGCACG
36851 TTATTTCAAA AACACAAACA ATTATGTTAC TCAACTGAGT AACACCCCTT
36901 ATCACTGCAA CACGAGGAAA TCCCGCCTGT TGCTATGAAC AAACAAGAAT
36951 CCATCTTCCC GCCTTATCAA CTTGAGTTCA AGCCTTCCTG TGAAAATGGT
37001 CCTGCTTATA CTACGTACTT GGATGACATC TGTTACTTGG ATGACATCTA
37051 TTGCCTCTAG GCAATAATAT GTCAATGCAC ATAAGAGTAA AACTAGCACA
37101 GTCTAACAAA ATAGCTATCT GGGATCTTGC AACTACTCCC TTTGGAAAAT
37151 GTTTTCTTGA TAAATGATCC AATTTCAACA TATGCACCAC TGAATTTCAT
37201 GGCATGCAAA CCCATACTGT CATAAAGACT GTACTTCTGG ATGTAAAGAG
37251 TATATACTAG TTGAGCCACC TAAAGACAAC AAGTTAACTG GCAAAACAAA
37301 CAAACAAACA AACCCCCCAA ACAACTAGAA ATTCACTTGA CCAAAGTCAC
37351 CTCTATTTAA ATAAATGGAG GCTTCAAAGT TACCTTGAAG CTGATTCTGT
37401 AGTTTCTTTT TCTCAGGATC CTCTGACTCT CCTTCCCCAT CACTGTCATT
37451 CCTGATTTGG AAACAAGAAA TAAAACGTTG AAATACACTG AGAAACTGCT
37501 GTCCTAGGTC ACAAATCAGA AAGCAGGAAG TAGAAAAAAC ATCACTTCGA
37551 GGAATGAAAA ACCTTATGAT TTTAGATTTT TTCAGCTCTC TACAAGTTTA
37601 CATCCTTGTA GTCTTGTTTT TCTACACTAT ATTCTAACCC CCCCCTCTCA
37651 CTGCAACCAT TTCAACTTCT GTACAGACCC GAGCCCTTCC TCTTAACACA
37701 CTTCTACATG TGTTGACTCA GCCTCTAGGA AACAAAGCA TCGTGGAAGC
37751 AGCAAAATGG CTTCACTGTA GATGCTGGCA CTTACTCCTT GTCCAGAATT
37801 GCAACTGGTC TTGGTCAATT CCATTTAGTA CTACGAAACT CTCTAGTCTT
37851 GTCAGAATAA AGGAAACTGG AAGTTAAAAG TAGAAAAAAG TAGACGAGCT
37901 AGGGGACAAA TGGAATGGAG ACGTGTAGCC TCATGTTCC TTCTACTATA
37951 AACCAGCAGA ACACAGTACA GCTCAAAAAA ATAAAACCCA TGAAATGAGC
38001 AGACAATGAA AGAAGCTGAA AATCAGGGGA GGTTTCAAGA GACAACTGAG
38051 CAGTTCTAGC TGTTCAAGAC TACCAAAAAG GGCAACCTCA CCCAGAGACA
38101 CCATTGTGAA ACCTTTCTTC TACCCTAGCA AATACAAAAG AGGCTCTGCT
38151 TGTTCAGGTG GGCTGATTCA GCTCTCAGAT GTGCAAAGTG AAAAACAGAT
38201 GTAATAAAAG GAGAGCGGTG CATAGGCAGG AGCAAGGCAA TAGAGCGATT
38251 CAGACCATCA GAACATCAGC CTATGACAGA ACCTTGGAAC CCCTCATCAA
38301 ATGTGAGACA GATAAAACTC AGACCACAGT AATCATCCAA ACCAAACCAA
38351 CCAAATCTGG ACTTATTTTC TAGTCATTAA GTATTTTCAT GCAGAAGAAT
38401 TGTGTTACTA GGCTCACTGT CATCGAAACA AAAAGTATTA GTGTAAAACA
38451 GCTTTCATTC TTCAGTGAAT GTCCTACAGA AGCATTGAAA GATGTAGCAA
38501 ACAAGCACAA AAAAGCCCAT AATATTAACT CACATTATTT TTCCTTTTTA
38551 AGCCCACTGT CCTTCAGCAT TAGTAGTTAC CTGAAGCGAA GCACTTCAAA
38601 AACACTACTT AAAATGATCT CTGTTGAGAT CTAAGTTGAA TCTTAGAATA
                                         R gene exon 2
38651 AGCGGAGTTC AGGAAGTATT TTGCTTTACC TTCTCCCAAA ACATACCCTT
38701 TTCCATCGGC AGGACCAGAC TCTTTAACTG GCTTTGGTGC AGTTTTTTCT
38751 CTCTTTTTCA GATATTCTTT CAGTTTTTCT GCTCTGTCCA AGTATTCCGC
38801 ACATTTCACT CTAATGCTCT GTTTTGCTTT ATCACCCTGT GTTTCATCTA
38851 AGAGTGTGAA AAGAAACAAT GCGTTGTTAA CAACAAAACA CACGTGCATC
38901 ATTCAGAAAA CATCTTTATG TGTTATCAAG ATACCTCTCT CAGGGCTCAC
38951 CACGCATCCA AATGTTTCAT TTACTTATTT TTTCCCCTAT GCCATGGAAA
39001 GAAGTGACAG GAAAGAAGTT AACGCCTACA AATCAATGGT AAGTAATCAC
39051 TTTCAAATCA AATACACACC TGAACGTTGC TTTGCCTTAA AAACTTGCCT
39101 GAACACGAGT AAGGACAGTG GCACTGGAAG CTTTTTCTGT CAGTCTCTCA
39151 AACTGCTATA TAGTGTCTTA ACTACTTTTC TAAACTAAGC CATTGAGAGG
39201 CTGACTTCTT GTTTTTAGAG ACCTTTTTTT AATCTAAGAC CACTTTATTT
39251 TTCCCCGGCC TGCTAATTTT GAAAGTTGTG CACATCAAAG GAAGAAAAAA
39301 GTCACAAAAC ATCTGAAAAA ATGAGGAGTG GTCCAACAGC CACAGTTCTG
39351 TTAGTCGCTA CTGCAGTATT CCAGATCAGC AATCAAGCTT GAAAATATTA
39401 AGTTCATGCG CTACGTTCCC AAAAGTCCAT CAGTATGGTT AAAAGCATAG
```

Fig. 1-15

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39451 GGAAGTAAGT GGCATGAGTT AATGAGCACA AAACAACCTG TGGATACTAC
39501 TAAGAGTTCT TACAAGAAGG GAGCAGGCAT GCAATATGCA ACTTTTGTCC
39551 TTGCTATAAT ATAACACCTC AGCCAAACTA CAGAGAGCAA GTGTCAACTG
39601 ACAACAACAG TCAGAAGTTA AACGTTGATG TCGACAGAGG AGACTACTCC
39651 GGGCAATATA AAACTTGACT TCATCACCCC ATGCATTACA CTTACATTTA
                        R gene exon 1
39701 ACAACGTGGA TTAAATACTG CACAGCATGC TGGTACAAAC GGAAGGCTTC
39751 TTCATAGTTT CCTGCTTTAT CTTCTTGTGC TGCCTTACTA GCGAGGTCTA
39801 TCGCTTTCTG TAACATAGGT AAATAATTCA AATGAGTGTT GTGTGAGTGC
39851 TTTGTGCGAT CAAAGAGGTT TTTAAGCTGC TGCTCTGACC GCTTCTTGGT
39901 GGCCAGCTTT TCTGCTCCTT GATGTTTACC CAAAAGAGCT GCTGTTATTG
39951 AAGACTTGCT GTCAGTTGTC TTCATCAAAT CCCATCGGCA TCAGTGTTGA
40001 TACTGGAAGT ACACGATTAC AAAGCAATGA AAGCAGCACC CTTTCCCTTC
40051 TGACCCAGTG CCAGGAGTTG GTTTCAAAGA CTCATTATTT GGTAAGCTTC
40101 TCATGAAGGC TTTAGGTACT TGACGTACAG AAGTGAGAAA TTCTAACCAT
40151 CTCTTCAGTG TGCATATGGG GGGGAGCTCA GTGGACAGGA AACATACCTA
40201 AATTATCACA GAAGTTCTAT CAAGGACAAT TTAGAGATGG ATTTTTATTT
40251 GTTTGTTGAG ATAATTTCAA ATACATCTGG TCGTAATCTA AGACACTACA
40301 TCGGCCTGTA GATATATTGA TATTACTGTT ATTCCTTTGA TCCCGAGTGC
40351 TTTTTATTAC ATTTCAGATT ACATTACAGA TTTTTATTAC ATCCTTGGAA
40401 CATCCGTACT GCTTCAGGAC AATTAAGAAT GACAATTCCA ATGACTAAGG
40451 CACGTATGCT TAAAAAAGCC AGAGTTGACT AACGCTACCT CGAACTTCTA
40501 CAGCCCTGTC TGCATATTTC CACCTTCTGC CAGTTTATTT CCCAAAGGCA
40551 GGGACAGCGT GCTCGTGATG ACTGTGCTAA CATCAGGGAG CAAGGTGAAG
40601 ATATTCAACC TCATCACAGG GTTTTCACTA CACACTGCTG TGCACATACT
40651 CTCAACAGTA ACCAGACGCT CTGATGCATC TCAGTCAAAA CCGAGCAGAT
40701 AAACTGCAGC CATCAGAGAA GGAGGAACAA CATTTCTCCT TCTATTGTTT
40751 TGTCTTGCCT TTTTGGAAGT AGAGATCACC TCATTGGATC CATCTGAAAT
40801 CAAGAGTAAT TTATTTCAAA ACAATCACCT GACAAGTAAG ACTATGGATC
40851 CTTTGTGACA AGTGTTGAAA ACAGAGCAAC CATCTGTTTC TTTGAAACAG
40901 AACTTGGTCT TTCCTCACTG CTGACCTCGT GCTGCCCTCT ACAAATTCAT
40951 TGTAGAGGGC AAACCATTCA AATTCAGCAC AACAAAAATA AATTCCAAGC
41001 AATAATTTCT GTTACTTTAG TGATTTAATT ACCACAGGAA CAGTCCAATG
41051 ATTCCTGGAT GCAGAACAAC AAAAACAGGG CTATGACAAA AATGACAATA
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41101 TATCCAAACA ACAAATAAGA GTTGGACTTG ATGATCCCTG TGTATCACTT
41151 CCAACCCAGG ACATTCTATG ATGCTATGGC TCTGTGTTCT AAATGGCAAA
41201 GACCGCCTCT GTTCAATGGT AACTCTCTTA ACAGGGCATC TTAGAGCCCT
41251 GCTCCTCTGA AATACAAAAA CAAAGGTCTA CATCCTGTGC TGACTGTTTT
41301 TGGTATTTTT TCAAATAAAA ACCCAGAAAA CCATCACTTC GGTTTTAGAC
41351 TCTCAGCTCT GGTACTTTAT TACATTAGGA AGGCTCTTAG CCTGCTACTG
41401 CAATGAAAAA CACCAGTAAC AAACAGGAAA TAATTTATGA AAGTTGTATG
41451 AAATAAGGCA TAGCTGTAAC CATAAATGAG GCACAACCTG TATCTATGGG
41501 GCTATAGTTT GAGAGCTGGA TGAACACCAC CCTCAGAACG AACATCGGCT
                                             CR1-GG
41551 TTGCTCTTCT GCTTACTCTG GGCCCTCTGA TTTCACAGAA GGGCGCAGGT
41601 TGGAAGGGAC CGTAAAGCCC ATTCAGTTCC AATCCCCCTT GCATGGTCAG
41651 GGCTACACCC CACCAGCTCA GTCCGCCCAG GGCCCCATCC AACCTGGCCT
                        MAR (0.72)
41701 TGAGCACCTT CAAGGATGGG GCACCACAGC TTCTCTGGGC AGCTGTGCCA
41751 GGGCCTCGCA ACCCTCTCTG AGTAAGGAGT TTCTTCCTAA CATCTAACTT
41801 TAATCTCCCC TCTTTTGGTT TAAAACCATA CCCCTTTGCC CTACCTCTAT
41851 CAGACCATGT AAAAAGTCAG ACTCCCTCCT GTTTATAAGC TCCCATCAAG
41901 TACTGGAAGG CTGCAGCAAG ATCTCTCCCA GCTTGGTCAC TATAAGCACT
```

Fig. 1-16

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41951 ACATAGCCTT AAGCTTACAG GCATGGACAT GGTTTAAATA GGTTTAAAAC
42001 TACTTTTTGC ACAGATTATT CCTGGATCTA TTTTGAACCG GCAACACAAG
42051 CAGTTCACTC CCACAACCGA AGGCTAAAAT AAAATAAAAT AAAATAAATA
42101 ATAATTAAAA AAAAAAAAAA AAGGAATAGA GAGCAGACAA GCATTTCCAA
42151 GAGTCGTACT CTCAGCAGAA ACCCAGTCCA AACTACGCCT CCAGCTCACA
                                                CpG island
42201 GCAGGCCGCA GTCTTGCCTC AGAGGCCAAC GGGTCTTCTG GTCCCAGCCG
42251 GGCAGGTGAC TACCCGGGGT CCTCCGGCGC CTCCGAGCCC CCACCCAGGC
42301 CTGCTCGACG CCCCACCGCT GGTGTCAGCG CTTCTGCCCC CAGGCCCAGC
42351 CTGGCGCCCC ACCCCGCCGA GCCCGCCCTC CCACCCGCCG GCTGCAGCGC
42401 ACCGGGGTTC AACAGGACCC GCTCTACCTG CAAGTTGCCC GACATGGCGG
42451 GGAGCCGGGA AGGGGAAGGA CACGAGACGA CACTGGCTAC GGCCGACCGG
42501 AGCTGCCCTT CCCGCCACCG CCGCCCACCG AACCGAAAAG CCGGCCTTCG
42551 CTAGCCGCTT CCGCACCTCA GCGCCGGCCG GCCCGCTTCC GCTTCCGGGC
42601 AGCGCCCCGT ACGCGTCACT TGACGTCAGC ACGCCGCGCC TCGCCCCGCC
42651 CTATCCGAGG GGCTGAGCGC ATGCGGGCCG GGCGCCGGAA GCGGAAGTTC
42701 GTGGGTTGGC GCGCAGCAGT GGTGCTGAGG GAATGGGGGT GGTGTTAGGT
42751 CCAGCACTGA CGTAGGGGAT AGGGCTGAGA TCTGATCATG ACCTACTGTG
42801 GGGAGCCTGC TGTAGCAGAG GTTGGGCTGG ATGCTCTCCA GATGTCCCTT
42851 CCAGTCCCTG CGATTCTATG ATCATTTCTG TAAAATGTTA AATAGTCACT
42901 TATAGGGTTT TGAATAAATC ACGTTTTTTC CTCATGCCTC ACGTTTGGGA
42951 CACAAAGACA TTTTTTTCTT ACATCTCTTC TTTCTCGTAC CATTTGCTTG
43001 CTTTCAGCGG CACTGTCTTT TGCATAATCT GAGTGCAGAA TGCTTTTTAT
43051 TCACAGAACC AGCTCTTAAT AATTCCTGAC AGTCATAAGC AGTCAGGCGT
43101 TAGTCACCTG CAGCTCAGTA ATGAAACTCA ACTAACAGGT CTGCAGAGTA
43151 AGAGCAATGA CGTGACTCAG AAAGCACAGC ACATTGTAAA CAACTCTTGT
43201 AAACTTGCTA TATGGGTTTC AGACTAATGA ACTTCTGCTA AGTCGGTGCA
43251 ACAGTTGTGT TAAATTACTG TCATATCCTT CCCTATGTTA TTGTAATACT
43301 GTTGAGGAAA TGCTTCCTTA GATTCACAAT CCTCGTTTTT CTACCTGCCT
43351 CCAACTAAGC CCAGTACAGT CTGCTCTGGG ATGAAGGTAA AAGGCACAAG
43401 CACAGTCAGC CCTATATCTA GGAAGGTTGA TGTAATTTCT TCCTAAAGTC
43451 CTCTGCTTGG CAGCTTGTTT TGCTTAATGT CTTCATATGT GCACACCAGG
                                    S gene exon 1
43501 CAGGATGCTG AAGGCTCGTT GTTTGGGGAT GATCAGTAAC AGCTGTTCTT
43551 CTATTGCAAA TGTGAAAGGG TACAATGTAG CAAAAATTCC TGGATGTAAT
43601 CAGGCTCTGG GAAATGAGAA GGCAAAGGAA ATGTTGGAGG TAAGAGCAGC
43651 GTTCAGGAAC CAGAATGATA TGGGTTGGAA GGGATCTTAA AGATCATAGA
43701 ATCATAGAAT CGCTAAGGTT GGAAAAGACC CACAGGATCA TCCAGTCCAA
43751 CCATTCACCC ATCACCAATG GTTCTCACTA AACCATGTCC CTCAACACAA
43801 CATCCAAATG TTCTTTGAAC ACCTCCAGGG TCGGTGATTC CACCACCTCT
                                    S gene exon 2
43851 CTGGGCAGCC CATTCCAGTG CCTGACCACC CTTTCAGAGA AGTAGTATTT
43901 CCTAAAGTCC AGCCTGAACC TTCCCTGGCG CAGCTTGAAG CCATTCCCTC
43951 TAGTCCTACC ACTAGTCACA CGAGAGACGA GGCCGACCCC CAGCTCACTA
44001 CAACCTCCCT TCAGGTAGTT ATAGAGAGCA ATAAGGTCTC CCCTGAGCCT
                                    S gene exon 3
44051 CCTCTTCTCT AGACTGAACA ATCCCAGCTC CTTCAGCCGC TCCTCATAAG
44101 GTCTGTGCTT CAGACCCTTC TCCAACTTTG TTGCCCTCCT CTGGACACGC
44151 ACCAGGCTCT CGATGTCTTT CTTACAGTGA GGGGCCTAAA ACTGGACACA
44201 GTACTTGAGG TGCAGCCTCA CCAGTGCTGC GTAGAGGGGG AGTCATCTTG
44251 TTCCAACCCT GTTTTCCTGT AGGTAGTATT CTGGCTGTG CCATCTGTAC
44301 CTATGGTTTT CAAATCTGTA ATGCTACACC TAGCTTTTAG ACCTAGGTCT
44351 AAAACAGTAC ACAAGTCACA GGCATGTTAG TAATGCCTCT CCAGTCACAC
44401 TTTGCAGTCT TCCGAAACTC CACATATAGA CATGTTTCTA TGATTGTGAA
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<div align="center">

Fig. 1-17

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44451 TGAGATTAAA AAAAAAATAA ATTAATAAAT CAGAAAAGGC ACGTGTATAT
44501 TTACAGATAA CAGGCTAAAT ATTATACTTC TTAATTAAGC TTTACTATAC
44551 AGTATTCCTG TTATGTGACT TTGCAGCTAG TTTTGCCTAA GGAAATACTG
44601 GCTGAATGCT GAGTAATAAC ATCACGACAG ACTCCTGAGG AGCTAATGAA
44651 GTATTACACC AAGAGTGTAG CTTCAGTTTG AGAGACGTGT ATGGTCACAT
44701 TTTGGAATGC TTCCCATTGC TGAGTTGCTG TGTTACAATA TTCTCAAAAT
44751 CCGTGTCAGT TATTGTGTTC AACTGAGTGT AATGACAATA AAATATATTA
                                             CR1-GG
44801 ATGACGTTAA ATGAAGATAT CATAGAATCA TAGAACATCC CAAGTTGGAA
44851 GAGACCCACA GGGATCACCA TGTCCAGCTC CTGGCTCCAC ACAGCACCAC
44901 CCAAAATTCA AAGTTGATGT CTGAGAGCGC TGTCCAAATG CTCCTTGAAC
44951 TCTGGCAGCT TGGGGCTGCC CTGGGCAGCC TGTTCCATAC CCACCACCCT
45001 CTTGTTCCCT CGGGCTCTGT CGCAGTCACA CAGAGCAGAG CTCAGCGCTG
                                             CR1-GG
45051 CCCCTCCGCT CCCTGCGAGG AGCTGCAGCC GCCACCAGGC CTCCCCTCAG
45101 CTCCTCTGCT CTGGGCTGAA CAGACCAAGG GCTCTCAGCT GTTCCTCATA
45151 CACGTTGCCC TCCAGATCCT TCCCCATCTT TGTGGTCCTC CCTTGGACAG
45201 TCTCTAATAG TCTTATGTCC TTATATTGTG GCACCCAAAC CTGCACCCTG
45251 TGCTGGAGGT GCAACTGCAC AGCACAGAGT AGAGAGGACA ACCCTTTCCT
45301 GCACTCGATG GCAGTGCTGG GCCTGATGTA CCCCAGGGTA TAGTTGGCCC
45351 TTTGGGATGC TAGGGCACAA CGCTCAGTCA CATTCAACTG TCTGTCAACA
45401 AGTACCTATT GGCCTGCATG AGGCCTGTCT GCTAATTGGG ACTCTATTAA
45451 ATCACATCAC TGTGACACTA GGTGGCACAG GCACACATGA TCTCCATGTT
45501 CCTTAAGGCT GAGTGAATCA TGGAGAATGC TTCCTGCTAT CAGTTTTTGG
45551 CATGGAAAGA GAGGAGCCAA ACCACCGGTT GGTTCAATGC CTTGTGCCAG
45601 GAATAGGTGA ATGCATCAAT ACAATAAGTC ACGTCTACAG CACAGCCAGG
45651 CCTCATGTCA GCAATACTGC TCCACTGTGA TAGCTGAAAG TGACTATAAA
45701 TGACTAACGT TAGTGTGGGA CTTTGGTGTT AGATGACGTG AGAGCCATGC
45751 AGTGAAAGAG AATTAGTGTG GCAGAGTATC TAACAGTGCA GGTAGATAAG
45801 GCAGGAAGGA TAAGTGTAAG GAAAGATAAG GAGAAAGGCA GGAAAGTAAA
45851 ACCTCTGTTT TTCTCTAGTT TTCTACCTGG TGAAATGATG AAGAAAGATC
45901 AGTTTGACAT AGGTTAACAA AAACTGTCAG TAAGAAAGGT AGGAGTTAAG
45951 ATGCATGTTG TCCAAATCCC ACTACATTAC TTTGACCCTC TTCAGCATAT
46001 GCACAATGAG ATCACTTGCC CAAGACAGGA CCTCCAGTGG GCATGAAATC
46051 TGAAAATCAA TTATTTGCTA TTTGTGTTGC TTATCATTTC CAGATGAAAT
46101 TCTACACGAG ATAATTAGAG TGATGTCCTT GAAGATCAAC CTTTTTGTCT
46151 AATTAAGGTA TTTGCTATAG CTTCCAGATG TATTGCTTAT CTATGATAAA
46201 TATCCTTCCT AACTACAAGG CTTCTATAAT AAGAGTAACG TCCTCTATAG
46251 TAACCAGTAG AAAGTAGGTG GAAGCTGGGT GTTCTTAGAC AACCTGTGCC
46301 CATACATGGA CAAAGTGAGG AGGAGGACAC CTCCCTAAAT GACCACCAGA
46351 GACCACTGAA GACCCACATG CAAGCACAGA AGATTCAGAT GTGTTGGTGT
46401 AACCTTGTAA ACGCAGTAAT CTCGTGAATA TGTGATAGAT AGGTGTGCCT
46451 TATGTATTAG ATAGGCGAGT ATTGAGAACT TTTGGTTTAT GGATGTGGAT
46501 AGTGCTGTTA TCCATCTTGC ACCCTGAGCA TAAATAAAGC AATATCTCTT
                                             S gene exon 4
46551 CTATAGTGCC TTGTCTTTTC ATTGTATTTC AGGAGACTTT GAAACTGACA
46601 ACAGGCATGC AGCTTGGGAG TGCTCACAGT CAGTCTGGCC ACAGTGCCTT
46651 CAAGCCTCCC CTGCACTGGG ATGTGGTGTG ACAAAAGCA CAAACACTGC
46701 TTTTGTAGAA GACCCAGACC ACAGGCTGCA CTAGGGAACG TGTCTGCCTG
46751 GAGCACAGTG CCCTGGGGAG TGCTGCTGGT ACAGTAGTCC TGGATGAGTG
46801 GCTTCCTTCT GTAACCTTTT AATTGCACTA GAAGTACACC AGCATGGCAG
46851 AGAAGGGCTG GGTCCTAAGA GCCCTTCTTT CAAATTCACT CAGAACTCCA
46901 GATGTTTAGG CAGGGTGTTG TAGCTGTAAA GTCCAGGAAG AAAAGGTTTA
46951 AAGCTGTACT CGGCACCAGA AAGACTGGAG CCAAAATAAA GCCACATTGC
```

Fig. 1-18

```
47001 ACCCATGGCA CTATAGGCAA AGGGTAGCCT TGGGGCAAGA CTTGATGTAC
47051 TAGAAGTTGA GGAGTCCTCA GACTCTGTGT CAAGGGGATG TGCCACAACT
47101 CTACTGTGCC CCTACCTGAA GCCTGAATCA GTACAAATGT CTCACGCATG
47151 GGTTAGGCAT CCTTCTCTCA AAGCTCTTGG TCTTTGCACA CTTTCTTCTG
47201 CAGCTGCAGC AGCAGCCAAA GGAAAATTAG GTCTTGCTTT GAAAGCCAGC
47251 CCCTTCCAGC CATGACTGGT CCCTTCTCAC TCCACATCTG TGGATGATGC
47301 TCCCACAGCA GGTGGGAGAG ACAGAGGCTT TCTTGAAGAA ACCCAGCCCC
47351 TCTAGGGGAA CACTGTAAAG TCACAGGGGA GGAGACGTGG CTTTGAGACA
47401 GTGATATACT CCATGCCCCT GGCGTTCTTC CCCTGAGTGC CACTGGTGCT
47451 GCTCAGTGGT CACATGCCAC CAAAGTCTGC ATTCATCTTT AAATGCTGCT
47501 GAGAATTCAA CCTTTGATAA ATCATCTGCT TTGACAAAAT CGACATTTAA
47551 AAATTAATAT TTCCTCTTCC ATCCCCTACT TTTACAGGCT GGCTCAAGAA
47601 AATGGGAAGC TTAATGTAGA CTTGGGTCTT ACTAAACCAT TTCACTGGGA
47651 AAGACATTCA CAGTCTGTGG CAGATGGTAG CAGTATATTT TCTCTCATAG
47701 TACAGGAATG GGTCTGGTAG TACCTCTTTG GAAAGGAAAA TGTAAACTCA
47751 TACGTTTTGA GCCAAATTCC ATCAGATTTC TTAGTTTTGT TAGTTTTCAC
47801 TCCACTCCTG CTGGAAACTG AAAATATGGA AATGCTTGGA AATTTACTGT
47851 GATTTGGGTT CAGGTGTGTG TATGCAGGAA ATGTGTTACC TTCCAGAGTA
47901 AGTCAGTTTA TTCTAGAAAT GGGATGACTC CACTTTTATA CACTTGTAAT
47951 TCACAGTGAG ATTAATCCAG CCAATTGGGA AAACAGCCTT TCTTAAATTG
48001 TGAAAAACAT GCTCCACTTC TATGTATTTT TTAATATACT TCAGCATTGT
48051 GAATTTGAAG TTTTTCTTCT ACTGTTACAT GCATTCCAAC AGAATTTGTC
48101 AGGAACAAAA ATGAAATCTG AAATAATATT TTTCTTAGCT TTGCATGTGT
48151 TATCCTCAAG GGTAATCACT GTCCTAAACA ACATACTTAT GGCTGTTTCT
48201 GAGCCTTTCT TCTTCATGAA CTCATCAGAA AGGGACACTC ATATTGGCAG
48251 TCTGTATAGA GAGCCAAGGA CAAATATTTC GCCTACGTCT TCTCTGCGTA
48301 GCATTTTATA TATTAGGTCT TGCTAGTGAA TTATGACTGA ATGGAATACA
48351 GTCCCTTCAG TGATGACTTC ATTCATGATT GAATAAATGT AGCTTCAGGG
48401 CTGTATGGTT GACTTACATC ATCCAATTTT GCCATCTGCA ACAGCCAACA
48451 CCTCTACCCA TATATGAATT CAGCGAGGGA TTTTGTACTA TGTGTTGCTG
48501 GGATGTAGCA GCATTTCTCT TTGAAATGTC TTTACAGATG CAATGCCTAG
48551 CAGGCTTAAC AGCCCTACCT GCTTCAGAGA CACTGCTGTA AAAAGAAAAA
48601 GAGAAGCTTC CCAGCCAGTA TTTCATCAAG TTAAAAAAAA TCTAAAAGTT
48651 TATACTGTAC CATTTGGATT GCTGCATGTT GACATCATTT AGGATTCTGA
48701 AAACCTAAAG AAGCTTTGGA GCAACTCCTA AGTGTATGGT AGATGCTCTC
48751 ATTATGTAAG AGTGACAAAT CACTACCAGT CTTCCAAAAA TGCATGCTGA
48801 AATCAAAAAA GAAATAATGG ATCTCACAAA ACTGGATCTG CAGATCAGGT
48851 TCTACAGCCT CTGGTATGCA AGGGTTAAAG TAGAGTGATT GTTGTAGCTT
48901 GTGTCTCACA GTCAGACATA AATCTGTAAG CAGGTCCAGG TTTTGTAAAT
48951 TGTTGCTTAT CACCACATGA GCAATAAGTA ATCTGAACAC CCAATGTAAC
49001 AGATTTCTAG GAGTTAGGGC TGAAAGCATC ATGAAGTTTA TTCTTTTCTA
49051 CAGCAAAGCA GGCTCTGTGT ACCTGTCTAG CCACATTGTC TCTGACAAAA
49101 TTTATCATCA ATTCTCATCT CCATCAACTT TTAAGAATTA CAGAATTGAA
49151 GGGAGGGATT GTTGAAAGGG ATCTCTGGAG ATCATCTAGT CTTACCCCAT
49201 GATGAAGCAG GTTCCTTACA ATAGGTGGCA TAGGAAAGTG TGAGCAAACA
49251 CCCTGCTGTG AGCACTCAGT GTAAAAGAA AGCCTGGAGT AGAGACCAAC
49301 ATCAATCTGT ATTGCATCCA AACCAGAAGA GGCAAAAAAA GTGTCTCACT
49351 AAGCTTCAGA AAGTGTAAAC AATTCACAGA AGATGGATTA TTGTGGAGAG
49401 AGTAAATGTG TGCAATTTTT ATTTTCCCCA ATATGTCACC ATTACAAAGG
49451 AAAATCATGG AATGGTGGAG GGTGATGGAG GCCTAGCCTG GGGCCCCAAT
49501 ACATGTAGCA GTGGACAGTG AGGTCACCGA CCAAGCGGTT GTGATGTCAG
49551 CAATGGAAAT GACTGTGACC TCGCTAGCCC TCACTGTACA GATTTGGGAT
49601 CTGGCAGAGG CCAGCGTGCA CTTGTGCCTG GACTCCCGTT GAGCATAGCT
49651 GCGAGACTTG GAGCAGTGAG CGAGTTGGTT GAGTTGTGCT GTGGGGCTGC
```

Fig. 1-19

```
49701  TGGCAGCAGT  TCTTGGTGCC  CACCCCACAG  TACCACCAGC  GTTTCCCCCA
49751  GCCCTGCCTG  CCTCAGGCAG  CTGGGGCCAC  ACAGGGTGCA  CTTGTAGCAG
49801  CAGAGGTGAG  TGGTACAGTG  GGGAAGTGGT  GGGGAAGTGG  GAGGGTTTGC
49851  TGCTGAGGGA  CCAGGACATC  TGGACAGCTG  CCTGCCCATG  GGACAGCGAG
49901  TGACCATGGC  CTCTCTCTCT  CTTTGCAGTT  CGTAACACCT  TCTGCCTGCT
49951  GCAGCACCTG  TGAGGGGAGC  AGTTTCCTGA  CCTCAGCTCT  CCCAGCCCAC
                                       T gene
50001  TGCACAGCCC  GGGGCCATGG  ACGTGCCGTC  CAACTGGACC  TGCCCCATCT
50051  GCGGGCAAAG  TCGGGAGGAT  GTCACCTATG  TGACCCCCTG  CCAACACCAG
50101  CTTTGCTATG  GCTGTGCCAT  CTGGTGGGCA  GAGAAGAAGC  CGAGTTGTGC
50151  CATATGTGGG  CACCAAATCA  CCACTATCCG  ATACTCGGTG  AGGTCGGATG
50201  ACGATTACCT  CGAGTGTGCT  GTCCCGCAGC  CCGCAGCACG  CTCAGATCAC
50251  GGCCTGCAGG  ACGAGCAGGG  GCCTGCAGAG  CCGGTGCTCA  TCCCACCTGA
50301  GCACAACTTC  CCCGCCGAGG  TCTGGGCTGC  ATTTTTTGAT  GGACATCCCG
50351  AAGACCTCGA  GCCCCTGCTC  CACTGGCTGC  AGGATGAGAT  CCAGCAGTTG
50401  ACCAGAAATG  GGTGGTGGGC  AGTGTGTGTT  GGACAGTGGA  CTGTTGTAGG
50451  CCTCCTTTGT  ATTTTCGGAC  TGGACGAGGA  GGCCTTGGTG  CAGGAGCTGC
50501  AGCCATTCTC  TGATGCTGAC  TTGGTGCCCT  TTGTAAGGCG  GCTCATCAGC
50551  ACCGCTGCAG  CCCTGTACGG  CCCAGTGATC  CGCCGCCAGC  TCGACCAGCA
50601  GGAAGGCTGT  GCTGCAGGAC  AGCGGGAGGA  CAGCCCCGCA  GCCAGCCCCA
50651  GCACCACCAC  CTCCCATCGG  GAGCCTCCTG  CCTTGCGCCC  AGGCCGCTCC
50701  ACCAGTCCCG  CAGGGCCCAG  CACCGAGGAG  CTGCCCGGCA  GCTCTACTGG
50751  GGGAGCTGGG  CACCCCAGCA  CCACCACCGC  GCCCTCAGTG  GAGGAGCCGC
50801  AGGAGGAGCC  ATGGCAGGCG  GTGGCAGCGG  GCCCCTCCAC  CCAGGGCAGG
50851  GATCGCTCGT  GTGGGGGGCC  CCGGCGCCCC  CCGAAGAGGA  AGGCCCACAG
50901  CAGCCCCCAG  GCCTCACCCC  CGCCCCCCAA  AAGGCGGCCC  CGACGGCGGC
50951  GCTAGGCCGG  CACCGCACTG  CCGTCAGAGC  ACGGCTCCAG  TGGGCTGGGA
51001  GGCCAACATC  TACCTCTCGG  CCTGCTGCTT  GCAGATAAAA  TGTGGGGATT
51051  CAAGAAAGAA  TATTTAGAGC  ACAAGCTGCA  GAACAAGATA  AACAGCATGG
51101  GAAAGGAATG  CTGAGGACAG  AGGATGCCTC  CAAGAGAGAA  GAAAGTCAAG
51151  TGAGCTGCAT  GATCGCTGCC  TAACAATCCT  AATTGGAAGA  AGAGTATGTG
51201  GCTAGGAATG  ACTCATAACT  CTGATTGGAG  AAGCGCCTGC  ATGCGTGGTT
51251  AAGGAGTAGA  ACAAGAGCAA  GGGTGACCCT  GTGGGATGTT  TTGTTGACAT
51301  GTAAAGGGGG  TGGGAAAGAT  ACCAGAGAAA  ACTTGGCAGT  GTATTTAAGG
51351  GATATTAGAA  TATGCAATAA  ATGATTTGGA  TTGCTCATAC  ATCTGAGTCC
51401  GTGCCTTGGA  TGCTGCAAGA  AAATAAACAG  AAATTCAAAA  AAAAAAAAAA
51451  AAAAGGATAA  GAAAATGTCT  CTGTGTTATT  GACAAGGCTG  TGGGCGTTGC
51501  TGTCCTTTCC  CATGCTGCTT  TCTCCCTCTT  TTTCTCCTGG  AGGTGAGCAC
51551  AGACATGCAG  CTTTATTTCC  ATGACCATAA  ATTGGCTTTC  ATGACAGCAC
51601  TAAAAAAACA  CACGAGGGCT  CCAACAAACA  GAGAAAGGAA  CTTATGTTAC
51651  TCTAATAATA  ATCCAATAAT  CAGGGCTTCA  CTAATTTCCT  CTCATACTGC
51701  CAGCTCCAGG  CCACAGATAA  TTAAGTTTTG  TTTGATTTCA  GTGACTGAGC
51751  TGTGATGTCA  CCCTCTCTGT  AGACTTCCTA  TTAGTCTGAT  GTTAAAAACA
51801  CCAAAAATAT  GTGCTGTAAT  CCAAAGAGAA  ATTATGGGTC  CCATTAAATT
51851  GGTACTTTGG  GTTCTACAGT  CTCTGTTATG  CAAGAGTTCA  AGCTAAATGA
51901  TTGCTGTAGC  TTGTGCACGA  GTTTTGAAAA  GATACCAATC  TGTGAACAGA
51951  CCCAGATTTT  CTTTCTGGAA  TTCTCCTCCC  CTGTGCAAAG  GAAAGCACAT
52001  TGTTTTTTGC  TCTCATCAGA  GAGTACTCTG  AAATGAACAT  TTTTGAGTTA
52051  GACAGTGAGG  AGCAGAAAAG  AAATTCTATT  CACATAGGTG  CTTTTAAAAG
52101  CATTACCAGA  TTCTTCTAGA  CAAATGACAG  AGGAATAACT  TTTGCCATTC
52151  CATTACACAA  TAGAATAACT  GAACTGCAAA  ACAAAGAGTC  ACGCTACAGG
52201  AGTAAGTTTT  GAAACTGACT  TGCTTACCTC  TGATGCTTCC  AGCTGACTTT
52251  CTCCATTCTC  ACAGTAGATT  CAAAGTTCTT  TTTTTTTTAA  CTGTGTGACT
52301  GTAGAGAGTA  GTGTTCACAA  CTTAACTGCA  TGCTGTGCAG  TCTGAATTAG
```

Fig. 1-20

```
52351 AGCTGGGGGT AGGTGATAAC ACACCTCCTT CAACTGTTTT GTTTTCCTGA
52401 ACTGTGGTTT GTCTCATTAT TTTCTTCTAA ATGCTATTTT AAGCAGTAAG
52451 AGTTTAAACA TGCCTTCTGC CTGCCTTAGA ACTGCAGAAG ACCTTAAATG
52501 CAGAACTCTT ACTGTTCTTG AATTCATGGG AAGGTCTGAG GAAATGGGGC
52551 CATCCAAGAT GTCCTCCAAA CAATACGTTC CCTCATTCCA TTATGTGTAA
52601 GGTACAGTGG TGTTGTACCA GGGGGTGAGC ACTGCAGTGG TAAGTGCTGT
52651 TGGACCTGTC GTGCAAGAAT AGAAAGAAGT CCCACAACAG CCAAAGTCCA
52701 GTGGCTGGAC CAGGAGTAGC CAACTATGTG GCTGCTGTGA TTTGATCCAC
52751 ACCAGATTTC CAGGTTAGCA TTTTCCTCTT AGACCCATCC TTATTAATCC
52801 CTAAGCCTTT TAATTAGTTC TTGTATGGAA AGTAGCAGAA ACTGTATAGG
52851 AAGTCATTTA TCTTTCTCTT CATCCTAGCC ACTCTTACCA GAGTAATTTT
52901 CATCTTAAGC AGGAAGCTCT TCAAGCCAGG CTATTATTCC ATCATAAACT
52951 GTCTATAATT CTTCTACACG TATGACATTT TGTCTACATC TTCCAATATC
53001 TGTCTCACTA ACAAGCCTGT TTCTGTTTTT TATCCACAAC CCATCGAATT
53051 TGGTAGCCAT CTTTGCAGTG GGCTTTGGAT CTTGACCCAA GAAAGGAAAA
53101 CGGAAGGGTA TTTGCACTGT CACAAGTTCC TATAGACCTA ATTGCAGCTT
53151 TCCAAGTCAC TTATGCCTGT TATGTAAATG TTAACGCTAT TGTGGAGTTT
53201 ATTAACTCGC TGGATTATGC ATGAAGTATC CTCTGGAGTT TCCCCATCAA
53251 GCTTAATGGG ACCATTAGAT CTCAGAAGAA TGACGAAAGC TATTTCTCAG
53301 TAGCTTACAT ATTACCTGGG TAGATGTAAT GGGAAAGAGA AAAAGAAGCA
53351 TTCTGTTATC AATTCCTAGC ACTTTCTTTT GTTAAATATA GGCTATTTTT
53401 TTTATCATTC ACAATTTTTC CTACTTTTCC TTTTTTTATG GCCTAGTATG
53451 TTCTGTGCTT TGTTACACAA ATCTAGGGAT CCTGGGTTAG TGGTGATATG
53501 AGCTGAATCA GCTGCTGAAT GTAGGAATAG CTCACTTGCT TTCATGGGTG
53551 CTAATCAGTT TACATTAGCT GAGGTTCAGG GCCATTGTTT GTTAAGATTT
53601 ACATCTGGAT GTCAAGATGG GTTTGCAGGT ATAACTTTTA TAAGTGACTG
53651 GTGAGACAGC GACACTGTAG GGTGTTTTAC TTCGAGTAAT GCAGAAGAAT
53701 GTACACTGAT TTTGTTGCCT TTAGCAGATC TGCCAAATAC CAACTGAAGA
53751 AGCAAGAATT AACATGTTTG TTCCTCGTCT TAGTTGCATT CAGGGACAAG
53801 AAAAGCTCCA TCCTCTCCTG AAAATACACA GCTGGAGAAA ATTCAGACCA
53851 TGGAGGCAGA CCCATTTCCA GTGTCTATTT CAGCAAATAT TGACTCTAAG
53901 CTTTTATTGT CCTTTAATAT GCATATATTC ATGCTGTGAA TCTATGCTGA
53951 AGAACTCTGG GAAGGTGTGT GCCCTCACCC ACATTAATCA CCCAGACACT
54001 TCATAACTAC CTGGATTACA GGAGAAAGTG ACTCATCTAC TGATGACGCT
54051 GGATAAAAGC AAGAGGGGAA AGAAATCCCC AGTTCTCACA CCTCCCTCCT
54101 CTGCACATAG TAAGGAGGCA CTCAAGGGCA TAATGCAAAC CCAGAGCTGG
54151 AAGGGAGGCT GTGTGTCAGG GCCCAGGCCT GCTGCTGTGG GCAGCAAAGG
54201 CCATGTAATC GCTGGACATG TCAGTTCCTA CTGCTCCGAT CTGAAACCAG
54251 TTCAGAGTTA GAGGGAGAGG TCTGCTTGGT CTCTCTGCTA CTCATGGGAA
54301 AAGCACTTCT GCCAATGTGA TCTACTCTCT CTTCAAAGTT TCCACATTGC
54351 TTACGTGAGC AATCCTATCC CCATGCAGGC TTTCTTTTGG TAGGTGAGCC
54401 CCTGATAATT CGAAAATCAC ACCTACACTC AGCTAGGAGC TAACCAGATC
54451 TATAATCAAG CACAGTATGG TGTGGCTATG TAGAGGAAGC ATCTTCAATA
54501 AATGTACTGC AGTGGTAATA TGCTTTTAAT AAGGCAACTC TGTTCACATG
54551 AACAGTACTA GAGAGAAGCA CACCAGGCCC TGAAACTTCA GGGCAAACAA
54601 AGGTTTGAAA GTATCCCTGA ATTAAAATAA TTGAGGAAAG GTGACAAACC
54651 TAAGCATGTT TGGGTTTTTT TCTGAGACAA GCATCGTGTA GGTTGTTTTG
54701 AGCCCTAGTC ACAGCCTGGC AAAAGGAACC TGGTGCAGTC ACTATGGGCA
54751 CCAGAGAGGA AGGAAGAACA GTGTTGTCCC TGTCCTTGTG AGAAGGAGCT
54801 CTGAACCACA GTGCACATGT GTGGGGGTTC ACAATACTGT CTTCCTGGAA
54851 GGACTGGATG CTTCAGTGGG AAGTGATTAA TCCAAAGCAC TGTCTCTCTG
54901 CATCTGATTT ATCTGTGCCA TACCAAGGCC AGTTATGCCC AGTGCTAAGA
54951 GTTGGGAGCA ATGTCTTTAG GGAAAAGGTC AGATGCCAAA TGATCTGATT
55001 CCAGCACTTT CATTTCATCT TTCATTTCCT GTTCTCCAGG TTAAAGGCCT
```

Fig. 1-21

```
55051 TGTTCTCACT GAAAGCTGGC AACTGTTTGG CCGCCTGTTA TTTCAGAGTT
55101 GTTTTATCAT TATTATTATT TTCCTGATGA GATGTATATC CCAAACAAGA
55151 ACAGGCTCAA TAAAATAAAT GAATGAAATT AATTTCCTGT CTTTGATTAG
55201 AAATATTCAC TGGTGAGGCA CACTTCTACG TCAGCAGACA TGTCTGCAGA
55251 AGGCTGAGTT CTTGCTGGAC GTGTTGAAGC AGTGTGTTGC TGTGTGACAC
55301 CATCCCTCAT CCATCTCAGT GCAGATGCCT TGGGAAGAAA GAGGAAAAAA
55351 GAGAGGTCAG CTTGCTGCTG CTCAGCTTGT GTCTCTCTCA GTATAATCCT
55401 AGAATGACAC TTGATTATTC TAAGTGCTAT TGTAGTTGCA AATCATCGTG
55451 TGGTTTGTAA CTGTCAGTCT GACCTTTACT AGACATATAC TGGAAAATAT
55501 TCTTGCCTGT GACTTCTCTC TATTGCTAAA TAATGATCTA GACAGATACA
55551 CAGTGAATAC AGAAAGTTCA GTTGTATAGA CCAACTGACA GACATTGTGA
55601 TTTTACCCTT TGTTTTTTCT AAGTGTGCCG AGGAAGCAGG TTGTTGTATT
55651 GAAATAAAGG CATGCAAATA ACCTGCTACT GGCTCCCTCC AAGATCTCAG
55701 GCTTGCTGTA AAAGCCGTAG CTAGGTCAAA AGGGGTTGCA CCTTTTGTGA
55751 CTGGCAGCAT AATAAACATT CCCCAGTTTA TTCTGCTCAT TATTCCATCC
55801 CACTTGTAGC CAATTTCCTG TGTGGTCTCC AAAGCATGAA ATCTGCAATC
55851 AGACATGTCC TGAGTGTCAA TGCATTAGGG AAATAAAATA AGGAAAAAAA
55901 GACAACAGCC GTCAGTTGGA GTCTGTGAAG GAGCTGAGCT GGTTCATAGA
55951 ACTGTGTTGA GCAGCAGGAG CGTTCCTTGC CCCAAACGAG CCTGTCCAAG
56001 GGGTGGGAGG AAGGAAGCTG TTTTTCTTTT CCACTCAGCA GCGTGTAGCA
56051 ACAACGCCCT GAAGGAGTGG CAGGGTGAGC CGAGACCTGG GGCTGAGAGC
56101 AGACAGGATG ACAGGAGTGT TACCAGGTGG CTGCATCCCT CCTGCACACC
56151 GCATGGCCAG GTGGTGGCAC ATGGGGATGG CTGCTGCGTT CTGGTGCCCA
56201 GCAAGGCCTT CGCTTGTGTT TCCCCTTGGG CTGTTGAAGA CCTGAAAATG
56251 TTGGTGACCT GGAAAAGGAA GATGAAAGCT CCTCTGTTGC TTTGTCAGAA
56301 GACTGTGGCT TGTCCTTGTT ATGAAACTTT GGACTGCAAT AATGACGGTG
56351 TTTCACTTTG CACATCCCTT GTTCCTATGT TGTTTTGCCT CTGTCTTTTT
56401 TCAGAGACAG CATCATGACA GGAGATGTCC AACTCACAGG GAGCTTTAAA
56451 ACAGCTTTGA TTTTATTATT ATTATTATTA TTATTATTAT CTAGTAAAGA
56501 AAAATCCTGC TCTTCATTCT GCTATCTTTT TAACTTGATT AAAAAACAGG
56551 TTGCAATAGA TGTGTGTTGA AAATTCTTGG AGGTCAAACC AAGCAAGACT
56601 AATTCGGTGA CAGGTAAATG CAGGAGATGC ACAAGCTGAT GCAGTTAGTT
56651 AGATGTCATT CAGTCAGACT GAGGAAGATG AACTGGGAAG CCAAGCTCCA
56701 GTGCTTGTCC CTTGCAAACC TCAGGTACCT AAGGCTCAGC ATCTTCTGCT
56751 TTTCAAGTCA GCATCTTTTG CTTTACTGCT TCTTCCTGGT TGGGCCATAA
56801 GTAAGATCCA GGTAAGTGAC AGGCACTCCC ATAAATACTA ATGTGAAGAT
56851 ACATATAACA TATACATAAA ATGACTTTAG GATGTTATTT GTCTCTATAT
56901 GTGACACCTA ATATTATTTC AACATTATCT CCAACTGTAA ATTAACCCCA
56951 AATATCCATT CTCTGGGGAA GCAGGACTGC CCTGTGAGCC ACTCAGTTAC
57001 AGGAGCCCGT GTGGACTCCT TTCTTTGAAG CATGGCAATT GGTTATTTCT
57051 CTCATGGCAC TATGATCAGA AATCAGTCAT TTCTCAGCAG CAGCTGGGTC
57101 AGGCAGAAGA GTTCTGTAAG CCTACAAAAT GCCAGACCTC AGCTATCAAA
57151 GAGAAGTTAC AGAGTGGAGC GCAGTAATGT TCATGCACCT TCAGCTTTGT
57201 AATGTAGAGT TCTTTCACCT TTCCCTGCTC AGCTTTTAGA AGTAACCAGT
57251 GCACCCCCTT GTATTTGTAT TTCCAGCCTA CATGGTGATG GAGCTGGTGA
57301 TGGTGATAGG AGGTGAAGGT GGTGACCTGT GCTATCTCTG TCAAGGCAGT
57351 TGAGTTGTCA GCCACTCCCC ACCAGTGTGC ATCCAGAAGC TCCTGAACCA
57401 CTTCACAGAG GGCCGTCTTT AGTAGACTTG GGCCTGAAGG AAAGTTTGTT
57451 CCTTTGGCTC TAGATTACCT GCAGACATCT GAGAAGAGTC TGGCAGCCAA
57501 CATTATTGCA GATTTTTATC AAAATTTCTC TCATAGTGTA AGGCATAATT
57551 AGATATGTGA CAATAATTGC CCAGATGACA CATTTTTGCC AGCTGTTCTC
57601 GATGTTCTTT GAATTGCTTA AACATATCCA CACCTTAATG TTTGTTATGA
57651 ATTCACTTAT GGTAAAGCAT ACTAATTTTA TGTTCACTGT CTGGTAAATA
57701 AATGAAGTTG AACCCTACTT CATCACAGCA GAAAGGAAAA TAAGATTTCC
```

Fig. 1-22

```
57751 TTTGGGTAAT AATGAGTCTT TTGGAAGCAC ATATTGCTGG GATCTGATCA
57801 GGAAGCAGTG GTGTGATTTA CACTCAAAAC TGTCATTCCA GAAGTAGATA
57851 ACTCCTCAGT TGCCACTGCC ACCAAGGAGG TATCACATCA GGGAAGACAC
57901 GTACTTTGGT TTCCTAGCCC TTTCATTTGC CAGCATAGCA ATCTTGAAAG
57951 CAAGCTCAAT AACGTTTACT TTTTTTGTAG CACATCAGTA GTCTAAGGGC
58001 ATATAGGGCT GCCTGGGGTG GGTGAGGTGT GGACAGCAGC TGTGTTTGTG
58051 GGTGGCAGTT TCCTCATGAA GGTTGACTTG GACTCCAGGA AGTCCTTGTT
58101 AGTGTGGTGG GCAGCTAGAC TTCGTGATGG GAGAAGCAGT GTGGAGCAGA
58151 GTAGGCCACC TTTTCCTTGC TAAGGACTAC ATACATTTTT CAAATCAAAT
58201 AAGACTGTCA GGCTGCACCA CCACCTTTCC CTCTCCCTTT CTTCAACCCC
58251 CTCCGCATTG GATTCATCAG TAATCATGTG GCCAATGAGG CCTGAACCCA
58301 GTGGTTCCCA TTCTGGAGAT GCTGGAAAGG AGCTGTGGCT TTTTCCACCC
58351 TCCCAGCTGA AATCATCTGC TTGAGAGCAA CACGGTGAGC AGACATTTCT
58401 CTTTGAGCAC GAGCCCCACT CTGGCCTTGG GCTTTTGAGG CAACCAAGTA
58451 CACCACACAA CCCTCACAAA GACAACACTG AGACACTATC TTAACGCAGA
58501 CACAGATGCA AAGTACTGGG TTGCCATCAC ACGTTTTGGT TGCCTTCCCT
58551 GTGTGTCTTT TTCACAATTA CAATTTTTA CGAATCACAG CAATTCCAAT
58601 GTACCTTGGA GCACTGGTTT TGCTCAGAAG CTCCTTCAGT TGCTCCTTCA
58651 CTCCTGCACC CTCTCTTTCA GAGTCTTTGC TCCCTCCTGT CTGGTGCCTA
58701 TTGTAGGGCA CTTGCTGCAG GCAACGTGCC GAGGCTGCTG TTTCCTGCTG
58751 GAGCATGTTG TTGTGTTCAG TAGCTAGGCA GGCAAAGACA ACTCAGGTGT
58801 GACTCATACT GCTCCTCCAG TTTAGGAGTT GCTTGAAGAA TGATTAAGGG
58851 AAAGAAAAAA AAAAAAAAAG AAGAAAAAAA AAGCGAGAGT GTGTGCGTAA
58901 TTAGGGCTGG GAAAGTGGGA GTGGTGTCAA TGAGCAGGCA AGCTAACAGA
58951 CTCTTCTGCT CAGCAAGGTT TCGCCACAGG TCTCTAGTTC TTCGTGTTGG
59001 ACCCATTTCA TTGATTCATT TACCAGGATT ATACCCTTGC AAAGTAAGTA
59051 CAACATTTTT TCTTCCTCTG GTACTTTGAT GCCTAACTAA CAGTTATAAA
59101 ATCTCTGCCG TGAAACGTAA TCGCATAGAG TGAGCAGGAT AAGGAAGCTT
59151 GTACAAAAAG ACAGCATGTG AAACTAAAGG TGGAAAAAAG CCTGCTCAGA
59201 CTACAACCTT CTGGTTTTGT CCCAGCATTG CTGTGTTTGT CCGTCTACAT
59251 TCCTTACCCC TGAAAAGATT CGTTGCAAAC GGTGAGTGGG GTCTGTCAGG
59301 TGAGACTGCG AAGACATTAG GAATTATTAG AATATTTAGA CTACCTGTTG
59351 GCTGTTCCCA ATGGCTTTTC CTGAATCAGA AGAGCAGGCT GTATATGATG
59401 CCATGAAAAT GCTCCATATC TCTAAGTAGG TGTAGACTGT TTGAGAAGTT
59451 TACAAAAGAA TATTCTTCTT GTTTTCCACA TGGGTTCGTA TGCTTTGCTC
59501 TGTTTGCTTT GTCTAAGCCT TGCTAGTTCA AAGGACAAGA ACTTAAGTCT
59551 ACTAATTACC TACTTGATCT TCAGTGTGCT CATCCGGTTG GAAAAATTCA
59601 CTGACTCTTG AGGCACAATA AAGGGTATTG TGGAGACTCT CTAATTCCTG
59651 GTGTGACTTT CTCAATTGTG TTGCTGATGG TGCTTTTTCC ACAACCTGAT
59701 GAACACTCTG ATCTCGCTAA AGCAAAGCAT CAGTCTGATA TTGTGTGTTC
59751 CTCAGAGAAA CATCTGTTCA GAGGAAATCA TGTCTTAGTC ACGGAGCTGT
59801 GTAACCTGCC TGGTGGAGAG CTGCCATTTG TGTAGAAGTA GGAGGAAGAG
59851 GCTCACAAGA GTTTTGTTCC TTTATATTTT GTGTTATCCA AGCAAGAGCT
59901 CCAGTAAGGT CATGTTAAAT GAGCTAGTTT GGAGGGGGAA TGCCCCACAT
59951 GTGGGTTCTT TCATATCGTT TATCTAAACT GAAGTGACTG CAGGGTGTTC
60001 ACTCACAGCT CATGAGCTGT AGCCCTAGTG CACAGCCCCA ATAGCAGCCC
60051 AGCTTGGATG GCCACCGCCC GGTCTGCCCC GGGTGCGCAC TCCTCAGGGC
60101 TCTTTAACAA AGGCAAGAAT AAAATAAATA CTTGCTCTGC TTTATCAGAT
60151 GATGCTTACC ATTCAGCTGA CGTGACTTGT CAGGTTTCCA CACAGATGTT
60201 GCCGTTCTCC TGATTAATGT TCAGAAGATA AACTACATTT AGCTTTTCTC
60251 TTAGTAAGCA AATAGCAAAC AAAGCTTTGT TTCTGTTGGT TGCATTCAGG
60301 AGTGACAAAG CAAAAATAGT GTCCTATACT ACTAAACACC TTTAAGTTAT
60351 TTTTTTTCTG CACTGATTCT AGAGCCTCTC AGCTTCCTCC TGTATCTGAA
60401 CGTGTTTCTT GAACTCTGTG GCCCCATCAC AGCTTTAAGC AAAGCTGGGT
```

Fig. 1-23

```
60451 GGATCACAGG CTGCATGTGC TTAGAAGGTG CCACCGTGCC GCGGGCCTCT
60501 CAGAATGCTG ACTTGTTGCT CTCCTGGGAA AGCAGGGATT CAGCCAGAAT
60551 CCAAGCAGCC CTTCTTGAAA TTTCATTTCC AATTTTGTTG ACTCCTCCCT
60601 GTGTGAGAGT TTCCTGTGAT TACTGACTCA GGAGCTGTGT CTGGTTTCTG
60651 GGACTGCTCG TGGGCACCTC ATGGGCTTTC GTCTTGAGTG GGGGCCTCAG
60701 CCCTTCTCAC TCAGCCAGAA CTTGCTGCAG TGGGGTCACT GACACAGCTT
60751 GGGGTGCTCA GGGCTTTAAA GAGGTTCAAG ACTTCGTAAT ATTTCATGCA
60801 GTAAATTCCT TTCAAGCATG TGAACGCTGT GAGCTCCTAT GTGTTGTATG
60851 TCATTAATGA ATGCAGCATT AAAAAGAAG GCTGATCAGA TGCAGTTAAA
60901 AAAGATGGTG AGATAGAGAT TATTCTTTGC TATCCAGCCC TTATTGAAAC
60951 AGCAGGGTGA AACTGAGGGT GTTTTTTTCC CAACAAAATC CTCTGAATGT
61001 GCAATATATC AGTAGCAGCA CTAAAAGAAA GAAAGTGATA AGCCTTGCCA
61051 CTACCAGGAA TAGATTCTCT TGGCATAACA AAGGCATTGA GAAGCATCAT
61101 CAGCTACTGA GTGAACAGGA GGACTGTAAA AGGTTCACCA CGAAGTACCT
61151 CCAGGTTTCC TCACTGAAGA GGAACACAGA AACCTTGCAA AAACGATCCA
61201 GCTTGAATGG TACCAGAAAA GAATTTCTAC GTCCTGGTGC AGAATTCCAC
61251 TGGTGTAAGG AAGAAGAGAG TCATTTAAGT TTGCAAAATT TCACAATTTA
61301 TTTCCTTGCT CTGAATATTT TGCCACCCAG GAGAGTGAAG CACAGGTAGC
61351 ACATGCACAT TTTAATATCA CTGTAGGTCA TTTGCCAATA CGACTGAAAA
61401 TGCTGATGTT AGAAAGGCAG GATTGCATTT CTGGCATGAA GACAGAAAGG
61451 AACGTGAAAT GTTTTGAAGT TATTATGATT GCATATATTT TCTTAGGCGG
61501 TAAGGAAGAT TTGGAAGTCA AAATAGCATC AGGGCAGCCC TAACTGAAGA
61551 AGGATATTTT ACTCCGCTAG CAAATGAAAT ATTTTTCAGG TAGACTGCAC
61601 ACATCATTCT GGCATTGTGA GATTATGCGT GTTGTTTATC TTCACGAGAG
61651 TGGTAGATGT TGAATGACAC ATTCTTGGTT CCTTGGGTAA TTTTCCACGG
61701 TCTCCCCAGT GAGAAATGCC TGGGAAGTTG GTACTTGCCC ATTTCTTCCA
61751 TTTTTACTTC AGACAGAGAA AGTATGCATA TGGATTGTGT GCTCGTGGGC
61801 CTTAAAGTGC CCTTAAAGAG AATGAGTTCA AAGGGAAAAA TAAGGTAGGC
61851 ATCCTGTTCA GAGCAGTTTG TGTAAGGTGC ACAGAAGTGC GTGTCTGTGT
61901 TGAGCGAGTG CAGAAAGGCA TTTTAAAGGA TGATTTCACA TGTGCTCCTT
61951 TGACCTGTTG TTCCAAGTGA CTCCCTCAGC AGCAGTCCCA GGTCTTCTTA
62001 TTTGTTTTCA CTGTCTTTTG CCACCATTTT GCCCAAAGCT CCCTCCTCCT
62051 TTGATGTATG CGGAGTCCAT CGTTCTAGC AAGCTTGACT TTTCTGGTTA
62101 TTAGTTGCTT TTATATGTGA GAAGTTGTGA CCACAGGAGT GACACAGGAA
62151 TGATGCTTGT AGTGCTGACT GGCACTGAGT TCTCACTTTT ACACCCAGAA
62201 AAACTCTGAG AACACTTCCC AAACCTCACT CTGACACCAG CTTGATTCCT
62251 GCTGACACTG TAAAATGGGA TCTCCCAGGG TAAGCTTCGT TACCAAGCAT
62301 CTTGGGACAC TGCCAGTGTC AAGGGAGATG GACAGACCCA TTCTGCTTGA
62351 AAAGCATCTT ACAGGGATCC TTTACATGTT GTAAACATCC TTCTTTTCAT
62401 TTTTATTTGG GGATAACTTT CTCTGGTGCT GTATATTTAA TTTTTTTTCC
62451 TCCTCAAGAT GAATTGCTTT CTTTGCGTTC GGAGGCAATT AGGAAATACT
62501 TTGTTGCTGA TACCAACAGT CAGAGCACTG TGTGAGGGCA CACTGCTGGG
62551 TAAGTGTGTT TTTCAAATTT GGATTTAAAA AGTCTTGATT TTATGCCATT
62601 ATCCTTTTTT CACTTAATTA GATTGTGCAT TATATTTCAG TAACCTTTTG
62651 TACAGCGTCT TTTAGCTAAA ATTAAGCCAG GTGCCTTACT AAATATATAG
62701 AACATATACC TATGTAAGTT AATGAAAACA AAGACGTGAA GGCCTTTTCT
62751 AATCAAACAG ATTTTACATG GAAATCAAAG TTTTCTCAGC TGTGTTGCAG
62801 AAAAAAAATA CCCCCCTGTT CTGTTACTCC TATAAAAACG TGTGAATACC
62851 ACAGATTATT TTGGAAATCT CTACTCTCAA CTACCAAAAC TGCCACAGCA
62901 TCTCGATACA TTGATGTCTG ATGTTCAGCC AAGTTTGGAC AGTATGACAC
62951 ATGCTCTTGA ATGCAGATTT TTGTCATTCA AAACACCATT CCAAACAGGG
63001 ATGAGAGTGA GCGGTCAGAA GCAGGTGTCC TTGCTCTGGA GACAGTTCCC
63051 TGCCCACATG TCCCCTCTTC CCTTTCCTGT CTTCTCTTAC CTAACTGCTG
63101 TCATCTGGTG AGATCTTTAC TCATCTGATG CAACCTAGAA TGCAAAAGGT
```

Fig. 1-24

```
63151 ATGAACTAGG TAAATGTTTA AGACTGCAGT ATTAAGTAGG CATTTGAGAG
63201 AAATCTCTGT CCTTAAGGTG CTTCTTGGAA GATCAGCAAA CCTCTCACCG
63251 AGGTAATGCT TCAGATAATG CTACAGACTT TCCTGTTTGC GTCTTCTGTG
63301 TCAGAGCCTG AAACGTTATT GCAAATAGAT GTCTGGATAA GAACAGAACT
63351 GTTAAAATCA CCTTGCCATG CCATATAAGT TCCAATATTT TGCCATTTTT
63401 TTTCCTGGGC AGGGAACATG TTGAAGAAAG TTTTTGAGTT CTGTTGGAAG
63451 TCTTTCCCTT TTGAAGTCCC TTGCAGTATT CATCTTTTCC TTTTCCTTCT
63501 GTCTCTTTCA ATAGACAGAG CTGCTGAGCA CCAATTTATC AGATTGTCTT
63551 TCCCCTTCTT TAGGGACATG TGATTCTGGG GATAGAAGAC AGTCAAACTC
63601 ACTGTGCCAA AGGAGTTACC GTCTTCCATA TTTGTGCTGC TCTTAAGCTC
63651 GATGCGATAT TGACTGAAAT TCTGTGGTTT CCCTTTGTTG TCTTTAATCT
63701 ACACCAATGG AGTTACACCG AAGTGCAGTT TTAGATCTAT GAAAGCAGTC
63751 TGGAAGATCG AATATTCCGT GTCATTCCCA GAACGTGGTC CAGAACATCT
63801 GTCGCTTGGC ACCACCTTTT CCATTCCTGA CTGCATAGAT CAGCTAACAG
63851 CCCTACGGCA ATTGCAGTTA CTCTGAACTG CTAGGAAAAT ATTTGCAGTC
63901 ATCATTGTAA GTGATGAGTG GGCACATAGC AGTATTTATG TAGGAGGCTA
63951 AGTACTTAGA GTTTCTAGGA TGATCTCAAC CTACAGGACC GGACAGCTTT
64001 CTGGAGAGTT CTAGCAAGGG TAAGGAGAAC AGGGAATCAC CTCTTAGAGA
64051 GAGGACATGC CACAGCTAAA GCTTTAATGA ACAATTAGAT GTGAAGCAAG
64101 AGACAGGAAA GATGATTGTG AGACTTTTAA AAGCCTATCA AAGCACTAGG
64151 AGAGCCCAAA GCATAGGCAA AGTACCTTAT AAGTTGGCAC ATCTGAAGAG
64201 TATCAATTAA AAACATATTA AATCCATATG TTATCCGATG TGATTCAATA
64251 TGTGTGGGTC ACCCTGACCA ACCCAGATTT CTCCACGTAT GTCTGGTAAT
64301 ACTGGCTCTA CGTAGCACGC AGAACTGCCA GCTGTCACTT GAAGGTAAGG
64351 GCTTCTACTG AGCCACTCGC ATTACCTTGG TTGGGCATGG ATGAGAGACT
64401 CCTCAAAAGC TGCTGGTGGT GTCTGAGACT GGGCAGGATT GGTCAGGCCT
64451 TTCTCGCCTC CCAGCGTAGG TTCAAGCTGC CCAGTCCCCA AACTGGTGTC
64501 CAGCCTCCTT CAGCAAGGAA ATCAGTGACC TGCCAGCCTC ACTGCAACAG
64551 GAGCTCACTC TGTGGGTCAT CTCTATCCTT TTCTGTTTCA GGATGACGAT
                              U gene exon 1
64601 GGATGCTCTG CAACTAGCAA ACACTGCCTT TGCTGTTGAT ATGTTCAAAA
64651 AGCTATGCGA GAAGGACAGA ACAGCCAATA TTGTGTTTGC CCCACTGTGT
64701 ACCTCCACAT CTTTGGCTCT GGCATATAAA GCTACAAAGG GTGACACTGC
64751 AGACCAAATG AAAAAGGTGA GCTGTCGGCA TCCTGCTGTG TAGCTGCAAA
64801 ATTGTCAGAG GTGGCTTTCC TATTTATTCC TCTTAATGCT GTATAGGACT
64851 GCTGGTTCCC TTGTAAGCCA GGCAGAAAAC TGTCCATCCA AAATTCCAGA
64901 ATATTTCCCC ACTCCATGGC TCCACACAAC CAAAGAGGCT GAAAATCACT
64951 AGCATAGGGA AAAAAGCTTT CTCAAGCATT TACAAGGTGG ATGGGGACAT
65001 GGCAGAGTCC TCAGCAGTTG TATTAAGGCC TTGTCTCCTT TCAGCAGGAA
65051 TGCTGATTGT GGCTGAAGGT GACTGCTGAA GTCACTGCAT TTTCTGGATA
65101 ATTGTTTAGT GATTATTCAG GACTGCCTAA GCTTAACAGG ACTGGAAATA
65151 ATTTTGCCAT TACCAAGTAA TTTTAGCAGT TCTGTCTGTG CCATTTCCCC
65201 TTTCTCCTGC CATACAGCTA AGAGGAAGAT AATGCAGTAG GAGGCAGCTC
65251 AGCTTGAGTA GTAGTTTGCC TTGCAAATAG CTCTAGATGC TCAAGGGTTT
65301 TACAGCACCA CGAAGCAGCA TCATGGTGAT GGTGCAATGA GTTTATCAAG
65351 GTTGCTCTGT GGCGGTGAGA GGCTGCACGA CTGCCTCTGT GAGAGCCAGG
65401 ATTTACACAG CCTCTTTTTA TTCCAGTGCC CACAGTCTCA GCAGTTACCT
65451 AGAGGTGAAT GAGAAGCAAA TTCAGCATGC ATTTATATGC TGATTATCAC
65501 CTGGCTCTCA GGGGCATTCC ATGTATTTGA ATACATTTTT CTTCGTTTAG
65551 CAGTTCCTCC TTGTACCTTT GGTTTCCCTG ACGGCACATT GCTGGAGCAC
65601 AGCCTCTGGC GCCTCTGCTC ATCCTACAGA TTGCAATGAG TCTATTTGCA
65651 CAGAAACAAA GTGGTATATC CACAAAGGCC TGCTGGGTGT TTTCCCAAAT
65701 AGGATTATTT TAAAAAAATA AAAATAAAAA TGATTTTTAG ATCTTATTTC
65751 TAGTTTAAAT GACACCCCAA AGCTTCCTTG TCATTTCAAA GTTCAAGCAC
```

Fig. 1-25

```
65801 TGTCTTTGCA ATGGAAGAGC TTAAAACATT AACCTGTGCT TAATTTCACT
65851 TTCACTTGTG CCTGCAATTT GCATTGAACC GTCCCACAAT AAGTGAACAT
65901 CCACATCCAC AAATAGGGTT CTGTTACACA AGTGCACTTA TGTTTCACAT
65951 TTCTCAAGGT AATTTACTGT GCCTGTAAAG ACATGGTGTG TTCAGGGAGA
66001 AAGAGCAGGA GTGAGGCTGA AAGGGAAAAG GAGGTCACTG ATGCTGGTTG
66051 GGAAAGATGA GAAGGGTTGG GCAGGCTGTT TTTAATGGAA CATGCACTCT
66101 CAGAGACCTT GCAACAGGCA GGCACCTAAA AGCAGAGAGG TTTAGGTCAT
66151 GCTAGAATAT CCTGGAACTG GGCATGTGAT TTCCCGGAGC TGGGAGGTGG
66201 GTCAGCAGCC TTACCTCTAA CTTACGTTCT GTCTGCCAAA GCTCACCTGC
66251 TTATCTGACT GATTTCTACT GAAATACCAC ATGACATCAT GTGTCAATAA
66301 TCAGAAAACC TTGCCATATG GTAAGCAGTT TTTAAGAAG TAACCCACTT
66351 CCAGAAAGGA AACTAACTGG AACATTTATT TATCTGGCCT CTAAACTCCA
66401 GATTTTTGGA CAAGAATGTG AGTTTGATAA AAGCATGACT CCACGCTGCA
66451 GATATGTAGT TCACTAAATC ACTTTGCTAG TATGAACAGC TCTATGGAAT
66501 TCTTTGGACT GCTCACAGGA AGGAAACACA TTTGGTTAAA GTTTTGATAG
66551 GATCAAGTTT TTAGATTTAT GTGGGGATGT CAAATAAATT AATTTTTTTT
66601 TTAGTAATAA ATAAGAGTGA GAAGTCGTGT TGTTAGCTTG AACACAAAAA
66651 AGTCAAAGCT CTGGTCACAA ACAAGCATTA TTTATTGCCA AGCTGTCAGG
66701 CCTGGAGCAT GTCCAGAGAA GGACAACAAA GCTGTGAAGG GTCTGGAACA
66751 CAGATCTTAC AGGAGAGCAG CTGAGGAAAC TGGGATTGTT CAGTTTGGAG
66801 AAGGAGAGGC TCAGGGGAGA CCTTATCCCT CTCTACAACT GCATGAGAGG
66851 AGGCTGTGGT GAGCTTGGGG CTGACCTCTT CTCCCAGGTA GCATTAATAG
                            CR1-L
66901 AATGAGAGGC CGTGTCCTCA AGTTGCACCA GAGGAGGTTC AGGTTGGATA
66951 TGAGGAAATT TTTCTTTTTC TGAAAGAGCA GTGAGATATT GGAACAGGCT
67001 ACCCAGGGAG CTGTTCAAGA ACTGTGTACA TGTGGCACTG TGGGATATGG
67051 TTTAGCGGGC ACAGTGGTGG TGGGTTGACA GTTGGACTAG ATCATCCCAG
67101 AGGTCATTTC CAACCTTAAT GATACTATGA TGCTATGAGT TTTTAGATAA
67151 TAAAAAGAAA GGTGCTCAGT ATTTTATCTT GTTCATTATC AGGTGCTCCA
                      U gene exon 2
67201 TTTACAAGAC GTCAAAGATG TTTCTTTTGG GTTTCAAACG GTAACTGCAG
67251 ATGTTTCCAA ACTCACCTCT TTCTTTGCAC TGAAAATGGT CAAGCGGCTC
67301 TTTGTAGACA AGTCGCTCAG CCCTACCACA GTAAGTACTG CAGAAAAGTG
67351 CTTGAATTGC TCGACCAACC AGACTTCAAT GTTATTCAAA ATACGTTCTC
67401 TCACTATTAG CTTTTACTTG ACTAGACTCA GATGATGAAC AGCATAATAA
67451 GAGTTTGTAG GAGGATGATT GTTCTGCTTG ACCCCAAGCA ATGCAGCCAC
67501 TGCTAGAGTT GCAATTCTTT CATTAATATG TTTTAGGTCA GTAGGCGCAG
67551 TAGGTTTTGA ATGCAATATG ACTTCTATGC CACATCAAGG GCTTTGCAAT
67601 ATAAGTATGA CTGGGAAGGA TTTTAAATAA AGATGGTGGT GCAAGTGTGT
67651 CTAGTCCACA CACCCAAGTA ATTACTGCAT AAAGAGTAGT TTTCTTAATC
67701 TAACTGAGGA GGCACAAGCC TGGTTATTCA AACAACACAA GTGAGGAAAG
67751 TGTTGTTTGG CCATGAAACT TAAGGACCTT GCAAACAACT GAGAAAAATG
67801 TTGTGTTTGT TTTATCAGAG TTGCCTTTGA ATAGGGCCCC AAGCAAGGGC
67851 AACTTCAGCC TAGAAGTGAT GTTTCAGAAG ACTCACAGCC TGCTTGAATG
67901 GTGTTATAAT CAGGTTGCCT GCTTTTTGGC CCCATCCACA GCAGTGAGCA
67951 TCTCACCTGA CAAGGATAGG CACACTGTGA GCAGCCTGTG GCCTTTGTCT
68001 CATCCCTTTC TTTTGCCCAG GTGTAGACTG AAGGCTACTT TATCCTTTCA
68051 AACTCAGGCA ACATGTTCAC TCCTGCAGTA CGAAAGGTAC TTTAGCAGCC
68101 AGTATAACTG TATTGAAGAC AGTCTTGGGA GCAATCTGCT GAATGCGGCT
68151 GCGTGTCCTG GCTGTCACCT GCTGTTACTT ATTAGCTGTC CTTTGTAATA
68201 TACTCTCTGC CTACACCGTA ATGAAGCTTG GGATACTGGT TTTGTAGGCC
68251 GTGTGGAGAG TCATCTAGTG AAGAACATCT AAGGAAGGTT AGCTTTGGTA
                      U gene exon 3
68301 CCTTGTGTCT TTCAGGACTT TGTTAACTCC ACAAAGAGGC CTTTTCCATC
```

Fig. 1-26

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68351  AGAGCTGGAA  CTAGTGGAGT  TCAAGGAAAA  AACTGAGGAA  ACACGGCAGA
68401  AGATCAACAA  ATCTCTCTCA  GAGCTAACTG  ATGGTGAGTA  GGGCCTAACC
68451  TCGGGGATGC  TGATTACCTC  TTTGAAGAAT  GATGTCTTTG  TCTTCATGAC
68501  ATCTCCTAAC  TATTGCTTTT  AGAAGTAAAT  ATACAGTGAA  AGCAAAGGGA
68551  CTGCACCTAT  TATTTGGATT  CATGAGGATT  AGCTGTGTTA  GCATGTTTTA
68601  AAATCATTTA  CTTTACTACT  GTGGCATTTC  TGGAGGCAGA  CCTTACATTA
68651  GCCTTTGGCA  AAGCATCTCA  TTTGTTTTCA  TTGGGAAAGT  TTGGCTCCTG
68701  GCTGCAGAGC  TTCACAAACA  TCTGACATCA  ATACATCAAA  TCCTGGCCCC
68751  GTTCTCTAAT  GGAGAGTATG  TGCTGAACTC  TGAATTTCAG  GCTGTTAATT
68801  AGTAGCTCAT  CTCAGCAGCA  CAGCTGATTT  TGACCACAGG  TGGACATGTG
68851  TTTCTTACTT  GGAAACACTC  CCGTGGCAAT  AGTTCTGCAG  CACTTTTCCT
68901  GCAGTACCAC  TGAGCCACTA  AGTCACAAGA  AGTGCCTCTC  AGTGACCATC
68951  AAGGCTCCCA  GGCAGAACCT  GCCCAGTCTG  TGCAGGGTAG  AGGTCTGGTA
69001  CGCAGTGCCC  AAGGCAGAGC  TCATGTACAT  GCTGTCCATA  GGTAGCTCCA
69051  GGGTTGGTTG  CTGCCTATTG  CCCTCATGTG  GTACACATAT  GAAAATATGG
69101  GTGCCTGAGT  TACATCTGCT  CCATCCCGAG  GTGACACAGG  TGCCCACAGG
69151  GAAGTACTTT  GCGCTGCCTG  TGTGATTTGT  GCATGAATGA  AGACTAACAT
69201  CCACAACACT  GTGGATTCAG  TGCCTCATGA  CAGTGTTTGA  ACAGACACAA
69251  AATAAAGCAA  GGGAAAGAAT  TACGTTCTCT  TTTTGAAATC  CATGGCACTA
69301  TTTGGTTATG  AACTGTAATT  AGATGGTTAG  CGGCATTTCT  TATTCGGGTT
69351  TATTCTTATG  TATCACTCCA  AAAGTGAGTA  GAAGCTAAAC  TGGAACTTCC
69401  CTTGAAGTCT  CGCTCTCCAA  ATGAGAAATA  TTTTTTTCAG  TTCTACCTGC
69451  TGAATTTCGC  TGAAGTTTCA  GTACCTTCTT  TAAAGTACTA  AAGAAAAGCA
69501  GTAGACATAT  TTTTTATTCT  GTTTTATGTA  AACCGAGTAA  AAATGTCACT
69551  TGGAAGATCT  GTCTTGATCC  CAAATTCCAT  TTTAAACATG  GAGCTGCAGC
69601  TAAGGAACTA  AATGCTTCTA  TTTGGGGATT  TCCCTTTATA  ATTAAAACTG
69651  CTATCTGTGA  GGTGCAGGGC  AGAAATATTT  TAATTCAGTA  CAGTGTTTCC
69701  ATGTTCTGTG  AAAACAGCAC  ATATGTTGAT  AATTTACTGT  ATTAATGACC
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U gene exon 4

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69751  AGCTTAACCA  TCTTCACAGG  CAAAATGGAG  AATATTCTGA  ATGAGGACAG
69801  TGTAAGTGAC  CAGACTCAGA  TCCTCCTAGT  TAATGCAGCT  TATTTTGTCA
69851  CAAACTGGAT  GAAGAAGTTC  CCAGAAGCAG  AGATCAAGGA  ATGTCCTTTT
69901  AAAGTCAACA  AGGTACGTCC  TGAAATAAAA  TAGAGTACAC  CTTCTACTCA
69951  GATGAATGTT  TGCCAATTTT  GTGCTAAGGA  AATTTCAGTG  AGAGCAAGTG
70001  AAAAATATTT  GTTACTACTA  TGGCATTCTT  AGACTCTCTG  TCAAAACCTA
70051  TGTGCTGTTG  CAAAAGTACC  TAAGCCAGTT  TTCTTGTTAC  GTTGCTAGTT
70101  TGAAGCTGTT  GGTGAAACAA  GCACTAAAGG  TCACCGATAG  TAGGTAATTC
70151  TTTCCTTTAA  AGCACATCCC  CAGTATATTG  TATTAAGTAC  ACCTTGTCAC
70201  ATGAAAACTG  CTCCCCTTAA  AGTACCAACA  GCTTTCACTA  GCAGTCTTAC
70251  AGCTGATATC  GTTACTTACA  GAAGCCAACA  AATTCCATGA  TGGTAATCAA
70301  TGTACCACTT  TCATGCAAGC  TTGCAAAGTT  TCCTCTCTCA  TCTTCTCTGT
70351  GAATTAAAAG  GAGTGCTAGA  TTGTCTCCTC  TTGTGTTTTG  CAGACTGAAA
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U gene exon 5

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70401  CTAAGCCAGT  GCAAATGATG  AATCTGGAAG  CTACTTTTTG  CCTGGGTTAT
70451  GTGAAAGAGT  TGAATGTTGC  AATCCTTGAA  CTTCCATGCC  TTAACAAACA
70501  TATAAGCATG  CTCATTCTGC  TTCCCAAAGA  CATTGAAGAT  GAAACGACTG
70551  GCCTGGAAAA  GGTGAGAGAA  AAAAACAGTA  CTGAGATGAT  GCTTCCATG
70601  CACAGCTGTG  TCGGTTAGCT  GTGGGTAGCT  TGGGTAGGGA  CTGTCTTCCT
70651  TGAATTCCTT  CATTGGGTTG  TTGAGCTGAT  TACATAGCAA  ACGCTTGTGA
70701  AGAACCAGTA  ATCAGAGTAT  GCACATTTAG  TGGAGTTTCT  CTGGAAGTCT
70751  ACTCTATAGG  TTAAATAATC  ATTATATCAA  TATAACTGAG  AGTGTAAGTT
70801  AACTCTGAAT  GCTACAAGCA  AAAGTTGTCT  TTTGGACTTT  GTTTTTTTGG
70851  GGTTTGATAG  GACTGATGAG  TTCAGAAATG  GTCTTTTTGT  TCCCACTTTC
70901  TCTGGACTGC  ACATTAATTT  CCTTTGTTCT  TTATGTCCTC  AGCTGGAAAA
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Fig. 1-27

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U gene exon 6

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70951 GGCACTCACC CCTGAGACAT TATTACAGTG GACCAATCCC AGCATGATGG
71001 CCAACACCAA AGTGAATGTG TTTCTTCCAA AGTTTAGTGT GGAAGGCGAT
71051 TATGACCTGA AGCCACTCCT GGAAAGCCTC GGCATGACAA ATGTCTTTAA
71101 TGAGAGTGCA TCAGATTTCT CTGAGATGTG TGAAACCAAA GGTGTGGTTT
71151 TGTCAAAGAT CATTCATAAA GTCTCCTTGG AAGTAAATGA ACAGGGTGGA
71201 GAGTCTCTAG AGGTACCAGG ATATCGGATT CTGCAACACA AAGATGAATT
71251 TAAAGCTGAC CATCCGTTTA TCTTTTTGTT TAGGCACAAC AAAACTCGCA
71301 ATGTGATTCT TTCAGGCAGA TTCTGTTCCC CATAAGCAGA GAATATTAAT
71351 TATGAAAAG ACCATAAATT TATGGTGATG CATGTTCCTG TAAAGCTTGG
71401 TGTCCTGACT ATCACCTTTG AAAGGAATTC TAAGAGGTTC ATATATCAAC
71451 AGGGTAATAC AATGTACTCT ACATATGCAG CAGAACTAGT TTATTTCCTT
71501 TTATTTAATC CCCTTAAGCT GAAGGATTCC CACTGTGCAG AACACATGAT
71551 ATTTGACTAA GAAGTATTCC ATCCTCATCC ACGAGAATAT TTTGTTCCTC
71601 TGTGACATCT TTTTCCAAAA CAAAATGAAC AGAGAACCTG TTTTTGAAAG
71651 ACTAGGAGCT GGAAGAGGCT CTGGGGGAAA GAGCTGCATT CCTGTTTCAT
71701 ATCCAAAACA CCTTCCCTTG AGACTCATAC TCACTGCCTA AAGGGGGAAA
71751 ATGTGGACAT GTGGTGTGAT AGCCCTCCTC TTGTACTTGG CTGTAGTCTG
71801 GTGATCCAGG GTGCCCTGCT GGACCCTGCT AATGCACGGT GAAATAGTGC
71851 AGCTGAACAA CTCAGAGTTT GCATCTGTGA AACAGCAGCT GCAATATGGA
71901 TGCAAGAGGC AATAATAAAA CACCCAGAAG ACTCTTCAGT GTGTGCTACC
71951 TCAGTTTGTA GGTTGGGGAG GTTGCACTCT ACTGTGTGGG ATTTTTTCAC
72001 TCATTCTCCT TCAGACATGG CAGAGGTGAC CAGTTCACTG CAGCTGAGAG
72051 GAACTCTGTT GTATATATCC TGAGAAAAAG AAGGCTGTGC AGTTCTAGGA
72101 TAGAAATCAC TTGGATTAAT ATTGAAAATG CCACACTCTT CAGATACAGA
72151 TTTTCTGTCA CTTCTGGATT CAGCATTAAG GAGGCTCCAC ACGTCTACCT
72201 AACCTCTGGG ATTCAAGAAA GAAATAAAGG CTTTGACTTG AGTGAGATTA
72251 ACACTGTAAT TAGAAGTCTC CAAATTCCAT ATGAAATTAT GGTAATTAGT
72301 TTTCCTTTCT ATCTAAAGAC TGCCTGCTGC ATATGTTCAG TACTGATTTA
72351 CCTAATTACT GTTCAGAATA AAGCACTACA AAACCTGTGT CAAATGTCTG
72401 TAGCACATCC AGTGTCAGTC TGTTCTCCTT CACTCAGCTT CCAAGAGGGG
72451 ATAGGAACAG AAATTGGTAG ATTCATTCAG GACACAGTTA AAATAAATAT
72501 ATGAAGAAAT TAAATCTGTG ACTGAATTGC CCTTTTGGAC CACACGATAA
72551 TAGCTGACAA TTAAGGAGTA TAGTACTATT TGGTCAATAT ATAGAGTGAG
72601 TTCAATTATA TATCTTCAAA GAAGGGGCCA TTTTAACTGA GTATTCCCCT
72651 TGGTTCTTCA GATCTGAAAG AACCTAGAGA TTTCTAAATG GGAACATACA
72701 ACCCTTAATA CATATTCCTT TCTTCTCATA GCAGAGAACA GCACAGTGGC
72751 TATTATGGAT TTGGAGAGAG TTCTGTTTTG ATTCTTGGCG TTCCCAACCC
72801 ACATGTAGCC TTCAGTCACA AACGTTCAGG GTTTCACCAG TTGTCTTCCC
72851 TCTGTGAGTC TCTAATGCTC TCTGACTTAT CTTAATATCA GACAGTTAGT
72901 GGATACATTG GTTCACATCT TTGAAGGCAC TGAGGGACT AACTCACCAA
72951 AACCAACAAG AGATGAGTCC CTGCAGGCAT CTGGGGGTCT CTGCTGCTCT
73001 TCATCAGGCA CTCTGATACA TAGATAGAAG AATGCTATGT GTAAGACTTA
73051 ATTTCATACT GTCTGAGAGG AGACAGCCTG CAAAGACCTT TACTAGCTCA
73101 ATAGCTTCAG TGATAAATGA GTGTCTGGAA AATGTTTTAA TGTGTCCCAT
73151 CATTGTCTGA TCTGTTTTGG AGGCTGCGGT TGGAGTTATT CAGAGCTGTC
73201 ATCACTGCGG TGTCCCCTGG TTCTCCCATT GGTCTGGGCA TTGCACGTGG
73251 GGTTGGCAGC CGATGAGCAG CTGGGCAGTC TGTACATAGG CAAGGTGGAC
73301 TGGTTGCCTA CAGTCTGTGC AGTTTCTCTG TGTTTCAGCA CTGACTCGTG
73351 GTCTAGTAAT TGCAGGTATC CAGCAAGCCA AATCACACTT CATTGCTACT
73401 GCTGTGCTGG TCTGCTAGAC TGATGAAAAT CTCTGTTAGA CTGCCTCATC
73451 TCTCTTTTTC TGCCTGGATA AGACTTATTA AAGGAGAAAA GCTGATATAT
73501 CACTCTCAGA TTTTCTAGAT CACGAAAACA TTGCAGTGCA GGAGCCATTC
73551 AATCCAGCTC ATACTCCATT TAAATGCTGA TCAGAACACT TAGTGCATCC
```

Fig. 1-28

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73601 ACGTACGTTC CCAGAGAGCT CCTTGTTGGT GCCTTTGCCA AGGAGGGCTA
73651 TCCCATGAAA GCACACAGGA ATGCTGCCTC CGGCAGAGAC CTGTCTGTCT
73701 CCACCTTCTG ATTAACACAA AGGTACCCAA GACTATGCAA GGCAAGCTGA
73751 TATTTCAGAT AAGAAGTTGC CTCAGTTTAC AGAAGGCCAT GAAAAGCTCT
73801 GGTTCATTTT CCATATCTGC TTCTTCTCTC TGCTTTTGGA AAATAATTCT
73851 TATTTCCTAC TAGCAAGTCC AGACTAGTGT AATATTTAGT CTTGATTTGT
73901 TAAATCATCG TGAATTTTAG CTTTTACTAA TGGTATCTTA GATGATCTAA
73951 TATACTAACA CCTAGTAAGT GACTTCAGAT AAGGTGTTAG GCTTATACCA
74001 CAGCCCAGTT TGAAGGAGCT AAGTGCAGAT GGCAACCAAA CAAGCAACAA
74051 CACAAATAGG CCCAAATAGC CCATGGAGGG CCAGAAAGTA CAGCTGCAGG
74101 CAGAGCTGTG ATGTAATCCA TTTTTGTGAG CCCCTTGAAG CCAGCAGGCC
74151 AGCCTCGTGC TTTTAGTGTA ATGGACATCA TACAGCCAAA AAGGAAGGTT
74201 ATGCCATAAT CCTTGCTCCA TTCAGCAATT GGACTCGAGT GTACTAGCCC
74251 TGTTTCCTAG ACCCTTCCAG TCCTATGGAA ATTTAGAAGT CCCAATGTAA
74301 AACCTATTCA ACTTGCAGCA TGTGAGAGGA AGATATCAGA ACAGCTCCCG
74351 CTAACGTGAG AAATGCCATT ACAGGGTACT GTACTGTTCC ACCCATTCTG
74401 GCCTCTGGGC TGTGGGCAAG AAACTGCATG GGAGGACATG GGAAAACCTG
74451 TGTGGGAGCT TGCATATAGA AATGTATTTG TACTCAAAGG CGTTGGCTGT
74501 GACGGAGAAA GTGAGCATAG GTGAGGACTT GCTCAGATCA CCAAGCAACC
74551 CCACCTCACC TTTCAACACA GCATTACTAT CCAATGATGG GTAACTGGCC
74601 TGATGGAAAA AAGCAAGCCA TGGCTGGCTT TTGCAGGCAG TTGCAAACTG
74651 CAGTGTTATG CAGTCTAGCC ATCTCATAAC TTGCTTAGCT GCATAGTCAT
74701 TGCCCACTTC CTGCTCCCAG CATTTTGTAG AAGAGAACTG GTACATCTAA
74751 ATGCTTTGCA GTAGCAGGAA TTGGTTTTGG AGATGAGCAG CTGGTTTTGA
74801 AACTTGAAAA ATGCCACATA CAGGCAATTG GCCTGGCTGG AAAAGCAGTG
                                                      CR1-GG
74851 CGGTTTTGAG CCTTAGGTAT GTTACATGTG CAAGTGTAGA GTCCTACACC
74901 TGGGGAGGAA TGACTGCAGG TACCAGTACA GGTTAGGGGC TGAGCTGCTG
74951 GTGAGGAGCT CTGTGGAAAA GAACCTCGGT GTTCTGGCGG GCAACAGGTT
75001 GGCCATGAGC CAGCAGTGTA CCTTTGTGGC CCAGAAGGCC AATGGTATCC
75051 TGGGGTGCAT TAAGAAGAAT GTGGTCAGCA GGTTGAGGAA GGTGATCCTC
75101 CCTCTCTGTT CTGGTGAAGC CACATCTGGA GTACTGTGTC CATTTCTGGG
75151 CTCCTCAGTT CAAAAAAGTC AGGGAGCTAC TGGAGAGAGA GTCCAGCAGA
75201 GGGCCACAAA GATGCCTGGG GTCCTGTAGC ATCTCCCTTG TGAGAAAAGA
75251 CTGAGAAACC TTGGGTTTTC CAGACTGGAG AAGATAAGGC TGAAGGGGGA
75301 TCATATCAGT GATTACAAAT ACTTAAAGGG CAGAAGCCAA GTGAATAGGG
75351 CCAGGCTCCT TTTGGTATCC TGTGACAGGA AATGGGCGAA AATTCAACAC
                                                      CR1-b
75401 CAACAAGAGG AAGTACTTCT CTACTTTGAG GGTAACAGAG GACTGGAACA
75451 GGCTGCCCGG AGAGGTTGTG GAGTCTCCTT CTCTGGAAAT ATTCAAAACC
75501 TGCCTGGATG CTTTCCTGTG CAACCTACTC TAGGGAGCTT CTGTAGGAGT
75551 GAGTTGAACT CAGTAATCTC CAGAGGTCCC TTCCAACCTC TACAATTCTA
75601 TGATTCCATC CTAACGGCCT TAGAAGGGTC AGAATTTGCA CATACGGTAT
75651 AATGTTCTGA GGCAAAGCAG TGAAACAGAT TGCAAAGAAG CTCTAAGGAG
75701 ATATAGAGAG CAAATCAAAG AAATGAGTGG AGGAACGACG TCAGTGTAAA
75751 AGGGAGGGAG AAAGCACAGA GTTTGGAAGA ACGAAAGCAG TGAAAGGTAT
75801 TCAAAAATGG CACTGAAAAG TGGCTAGGAC TCACAAAGC AGCAGAAGAA
75851 AAAATGGAGA ATGGAATGGG AAAGGCAATA GGCAGAAAGA AAGAAAAAGA
75901 TAAAGAGGCA GGAACAAATG ACTAAGAAGT CTGAAGAAAT ATGCAGAAAG
75951 GAAAAGCAAA CAACAAAGCG AATCCAAATG GAACAGAAAA AAAGTGAAAA
76001 GAAGGAAAAT ATTACTGAGG AGATCTGATA CTGTGTGCAG ATTTGTGCTT
76051 CCCATCTCTT TCTTTGCATC TCACTGCATG TTGGGGACAT AACCCCATGT
76101 GATCAGCCTC TCTTGGACTC CTATTCTTAG CTCCAGTGAT TTAAAAGAAT
76151 ACCCCCTGGG TGGGGATTCC TGTTACAGAT CAAGGAAATA CTTCTTCCTC
```

Fig. 1-29

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76201 TCTCTAATTA AAATCCTTCC ACTCACAGAA AGCTGGCTCT GTACCTGAAT
                            MAR (0.81)
76251 GCGTGCCTAC TACCTGTAGG CAACATAAAG CTCATGCATT TCCTATTCAT
76301 TTGCTCTATT TCTGCAAGCA AGCTCAGCCC CAAACAAGGG ATCTCTAAAT
76351 CCTAGCAAGA ACCCTGCACA CCCCAGTGTT CAAGTCCTGA CACCACCAAA
76401 TTCAAAAGGA ACTACACACA GCACCACAGC CATGGATCTC CAGTGTTAAT
76451 GCTGTTCTCC AGCTAAGGGC GACTTGGCTT TGCAGTCAGG AGATGTTGCC
76501 AGGATGCCTC CTGTCAAACT AGTTGGGCAG CTTTGAGCGA AATGCTGTTA
76551 GCACATTGCT AGATATAGGT TTCCTGGTCT TCTGCAGGAA ACTGAAGGAT
76601 GACATTTGCA TGAAATTACA ACGTGCAGCC TTTATCAACA ATTGGCTAGA
76651 GACTGAATTT TCCCACAAGA AAGTGGAAGA AATTTAAAAT AGAGTATACA
76701 CAGGAAGGTG CTCCAGAGCT CAGCTGTTGT GTTCTTCATT TGACCTCCTT
76751 GCTCAAGAAG GTAAACATTA TTTTTCTCTT CAAAAATAAC TTGTCTTGTT
76801 GTTGTTGTTG TTTTGGCCAA ATCAGTCTAA AAGTTGGTAA ATTTCATGTT
76851 TATAGATGGG GCAAAGGGGG AAGTACTTTC ACAGGCTGGA GAGAGCAAAA
76901 GACACTGCTA AAATTTGGGT GGTCTTCACG AAGGGAGGTG GTCTTCTCTG
76951 GGGTGAGGCT GGGAATTTAG GAACACATGC CCAAAGCTAT GAATCTAAAG
77001 ATGCCTGTCT AAATTCCTCA GACTTTTGAC TGAAATTTCC CTCGGTTCTC
77051 CCTGCCTGCT TGGAGAGCTA TAACTGCCAC AGACTGAGTG GTTTATACCA
77101 CATGCAGATG CTTTGCTGCC TACATCTCCA GAAGGGTCAA AGGGCTGTTT
77151 TAGAACAGCC CAACTCACTC TAAAAAAATG GGCTTTATGA GAAGCGATGG
77201 TGCAGATCAT CTGGATAAAC TCACCCATAA ATTAATAGAA ACAGGTTAAT
77251 TTTCCTTCTT TACTCAGGTT TCCACAGCAC AAGGAAAAGC CTTGAAATGT
77301 TCACTAGACA AGAGAGGGCA CGCAACTCTT TGGTTGCGTG CTTGGGTGTT
77351 TCCTCTGTAC CCTGGTCTCT GCTGCTAGGA TTGTTTATGT TCTTAAACAA
77401 TGGCTGTATA TAATAGGAAG GGTGGAGTAT TCTTCAGATT TTGTTTTGGT
77451 AATGGGGATG CTTCACTATC AACATATTTG CTCCTGGCTT TGGCAGCGGT
77501 GTTCAAAAAT TTGCTGAGAA GTTTATGTAA CTACACATTG GCATAACAAA
77551 TAGCTTGCCA CTGTATGGCC AATGTACATC CATTCCTGTT CAAGCAGGAA
77601 TAATCAGCCT AGAAAGAAGC AGGAAAGATA CATCCTGGAG GTACCGATGC
77651 AAAATAATAG AACCAGTCAG GAAAAGCCCT TTCCTGTATA AAAACAGCAT
77701 CATGAGGGGC TAAGTTGCTT GGGAGATGGA CTTGGCAACA CTTCTCCTGA
77751 AAAGATATTT TGTGCTGAAA TGTATTGGGT TTTAATTTAA AGCACATTGC
77801 TTTGGAAATG CTTTGTGTTG CATGGGAAG ACTCGAATTT CTGCGTTAAA
77851 GGAAATTTCA TTTTTCTTAT GTGTTGTGTC CCTTTAAACC CAAAAAGCCA
77901 CAGAAACACT TTGAAAGTTT TTGTATGAAT GGTCATGAAA AATAACTTCT
77951 ACAACCATAG GCTTTTCATG TGAGGACACT GTATTATCTG TTGTGTTCTC
78001 CTTTTCTAGG ATAGACACGT ATCATTTCCG CCAATTCTCT CTTCCTTTGC
78051 TTATGAGAAA TAAATGTATA TTAAAGCACT TAAATGAGAA GAAGAGTAAG
78101 TATGCAATTG GAATTATCAT GCAGCATCAG GGAAAACAGG TTTCTTCTTG
78151 CTTTCCCTTT CTACATATAG AACTGCCTTA CAAACCAGGC TACCACTCTT
78201 TCAGAATCTG CATTTTATTT ACTGCCTCCT CCTGTTGACT GCATAATGTA
78251 ACATACCACA TCTTTTAATT ATGATAGCTT TGAGCGCAGC TTTTCATTCT
78301 TCAGTAAGTT TTGCCTTGAT TTCATCTTTA GCCTAAAACA AGCTCTACAG
78351 AGAGAACAGA GCGTGAACAG CTATAGAAAA GGAGTATTTT TCACTTCACG
78401 GAGCCATGGA AGCAATTTGT TATCCTTACA AGACTTCTGG TATACAGTGG
78451 TATCTACGGA AGGAGGCTCT TTTCCTGGGT AGATCCCTGC TCACATATAA
78501 CAACGCCAGC AATTCCACCT CCCAGACTGT TAACAGCTAC TGAGCCATCA
78551 TGCAAAGCAT CTCCCTTCAT CAGCCATAAA ACCACAGCCC TGCTTGCTGC
78601 CTCTGCACAA TTGCTAATGT TCTGTGCAAA CAGTTTGTCT GGTGCAGAAC
78651 AACAGCTGTG ATCTTTCTGG AACACTTCTT TTGATCTTGT ATTTTCTCTC
78701 CTTCCCACTC CAAGATCTTT TAAAAGAACC ATTTCCATTT GTTGCCCAAC
78751 ATCTAGGTGT TCTCAAAGTT ACTCTGCCCT CACGGTGGCT CCAAAACTCA
78801 CCAACAAATG ATTACAGAGA TCATAAGCAT GGCTTAATGA TGTGGAATCA
```

Fig. 1-30

```
78851 TACCTACACA TACTCCCTCT CCAAATATCC ATTAAGAAAG TTCACTAAAT
78901 CCTTTGGTTC TCTAGTAAGA AAGTTCCTTC TCCAGCCCAC ATCCCTTCTC
78951 CCTCCACTGT TGCATTGCTT TTCTGGGGCA GCCCTGTAAA TAGCTCACAT
79001 GAAGCCATGG AATTGGTGGC AGTGGTTGTA CCTGGACGTC ACTCTGAAGA
79051 CAGTCTGCTG CTTTTTCTAA AGGCATGGAC ACCTCTGTAC GCCAGACGCT
79101 TGCCTTTAAG ACCTGTTTCC AGCTCTCATG CTCTCCCTCT GTGCTTGGTG
79151 GTTGGTTCTT TCCCTGTGGG TTGGGGTGGA GGTGCCTCTC TTCTGTTGAG
79201 GAAGTTCATT AGCTCCTGTT GTCTCCTCGA CGCCTTCTGA GGTCTAGACA
79251 CACCTACAAC ATGCATCCTG ACCTACATTC ACAGTAAACA ACCTCTTAGA
79301 TCCATTTTAG ATCTTTTACC AGCTGTGAAA GTGGAGCAAC ACAAACTTTA
79351 ACATGAAAGA AGTGCTGAGT TTTGTTTTCA GAAGGTTGTG AATAATAGCT
79401 AACGAGGGTG GAAGAAAGA GAAATGATTA CTGCAATGTG TTTTTCTTGT
79451 GGTAGGATGA CTGCCCATTT ATGTTAGGCC TTCATATGAA GTACTACTGG
79501 ACTTCAGGGT GAAACAAGTG TCTTAGAATG AAACATATAT GAACTTTTTA
79551 TTTCAAGTTA GGTAAAAGGA AATAAATGCC TGCACTTGCC ACATATCAGC
79601 ACCTTCATAT GTTCAGCAAC TTGACTTTCC TGTCAATCTA TCTTAGGCTA
79651 AGCCTTTTTT CTTGTGGGCT GAGTTCATTC CCATTGTCTG GGACTTGCTG
79701 CAAGCTAAGC TGCTCGCACA GACAACTTGC TGCACCTCAG CAGAGCCATA
79751 GCAACTTCTT ACACCCTGTT AACTTTGGTG CCTGAGCCCC CACTTGTCAT
79801 ACAAAGATCC TGCCTGTCTC ACACCTGAAT GAGAGGCAGT GTGTGTTCCG
79851 CATCCTTGCA GTCAGTGCAG GACGCTGAGT AGTTCTTGTC CCAGAGCAGG
79901 CTGAAAGCTA GAGCCACCCT GACCTGAGTG CTTTCTCTCC ACACTGTGCT
79951 ATATATTTTC CCCTAAATAA AAATATCTTTC TGGAACACAG GCCACAGTTA
80001 CTTATGTCTG CAAGCAGCCA AGAGCATATG CTTTGCTTTT CTTACATATT
80051 TCTGGTGTGC TGTCCAGAAC ATCCTTTGTT TGACACTAAA ATTGATGTGT
80101 GCTTTTTATG GTACAATATT TTGAGAAAAA CTTGAGTACT CCACTGCTAT
                                MAR
80151 CCACACAACA GCTTTACAGT TATTTCCCTA AAGGACTGAT AAGGGCTTCT
80201 TAAAAGCCTT TTTTTTTTTT TTCAGATGGC ATTCTTCATG AAAAGACCAA
80251 GCTGAAACTT AGTCCCAAAT TCTTCTTACC AGAGTGGATT TAATGGCCCA
80301 TAGGAAAGGC ATCAGACTGC TGTATTTACA GTACAAGAGA AAAGAATGAG
80351 ACAGATCTTG TCCTGCCATT GAACAGGAAG CTTACAGACT TTCTGGGGCT
80401 GCTGAGCTAT TGCTTCGTTG TGAAATTGCC ATTCGTTATC CATTCTGAAT
80451 CAGTGGTTCC TATCAAATCA ATGAGGAGAC ATGAAGTATA CTGCAAACAG
80501 TGCATGTTTC CATAGGTAGT AGCATTCATA GCTGCTTACG TTCCTTCTTC
80551 ATACATGAAA ATAATTACTA GTAATTTTAC TTTCATGAAT CTGTTGTTTG
80601 AATCCTTCAC ACTGCAGCTC AGGTTACCAG ATGTGGTTAG ATGCCCGTGT
80651 AGTTTCTGTC ACCCCAATCT GTCTCTAATC ATGTTGTTAC AAGAGGAAAG
80701 AACTGATGCG ATGACACACA TTAAACTAGT TTGTAGAAGG AAATCCACGG
80751 CTGACTGATT TAAATACCAC AACCTTTTGC TTACAAATAA GAACAAGACA
80801 GACAGACCAC GGGAAACTCT TTTGGAAGGG ATCAGATACA TTGTGGGATA
80851 AGATGGAAAA ACAATTCTCT CTAAGGAATT CTCATATGGT ATGAGTATTG
80901 GGGCCCCTTT CCAGATCCTG CTGTATTCAC ATGAGTGTGA ATTAATAGAT
80951 GTGTGCAAAA TCAGCTATTT CAAACTCAGA ATTCAGCACA CTTCTACTAT
81001 TTAGCAACCG ACTATGGGAT GATTTTAGGG CGGACAGATA CTTCACAGTA
81051 TGATACAGAT AAGCAATCAG CTGATTCACA TTTCTCCTTT CCCTTTTTGC
                                   V gene exon 1
81101 TCCCAGTAAG CTGCAGGCTT CACAATGGGC TCCATTTCTA GAATGATTAT
81151 TGAGTTTTGC CTTGATCTCT ACAATAAACT CAACAGAACA GCAAAAGGCC
81201 AAAACATTGT CTTCTCTCCA ATGAGCATCT CTACCTCCCT TGGCCTGATC
81251 CTTCTAGGGG CACGAAACAA CACTGCTGCT CAGATAGAAG AAGTAAGTAC
81301 TGCTGAAATG TTCTGAGATA CTTCCACATA GCCTGCTGTT CCCCCAGTGG
81351 CAATGCTGGG CTTTGCAGCA AACATGTGT GCTTAGGAGA CAAAGATAAA
81401 CACAAGCTCA ACTGCTGCCT TGAGAGCAGT GCTTGGTGTG CTGTGATCCC
```

Fig. 1-31

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81451 TGCTCACTTA TCAACTGTGA CATTCAAACG ATTCAACATG TCTCACCTAC
81501 AGAGCACACG GAGCCTGGGG GTACAGGGTG GGCATGCAGA AGTCTGTTCC
81551 TCTGGTCACC ATGCCTTTTA CTCCCTGCAG TGCAAGCTGT ATGCTCTGAG
81601 ATCTTTTATT TCTTTTCTTA TTTGTTTCTG AGAGCAGTAA GTGACCAATA
81651 CTCCTAAGGT ATATGTGGCA TAAGGCAGTA GCTGGCTCTG GCTGTGTCCT
81701 GGTGGATCTT CATCCATTGT ATTATAATAT TGCCACAGGT CAGCTGCTGC
81751 CAAGGGAAAC TCATTCTCCT TATGAGGTTC TGAGTGACTC TTGCTTAGTT
                                                 CR1-c
81801 TAGGAAAGCA ATGGAGATCG AGTACTCTCA ACAAGGGGGA ATGGCGTCTA
81851 ACTAAAAGAG CGGAAATTTA GGTAAGATGT TAGGCATATA TTCTTTACAC
81901 AGAGGGCAAT GAGGCACCAG CACAGGCTTC CCAGAGAAGC TGTGGTGCGC
81951 CATCCCTGGA GGCGCTCAAA GCCAGGTTGG ATGGGGCCCT GGGCAACCTG
82001 ACCTGGTGGT GGCATCCCTG CCCACAGCAT GGGGTTGGGG CTGAGTGGGC
82051 TTTGAGGTCC CTTCCAACCC AAACCTTTCT ATGACAGTTA ATAAATCTAC
82101 ATCACTTATC CAGGACAGCC CAGTAAATCT TTCAAACAAG GAAAATGCCT
82151 TTATCCCAGT TAAAATTGCC ATTAATTTGA CCTCTTCAAC TGCAGGTTCT
82201 CCACGTCAGC AATGCCGCAG GAACTACAAG CCTTGAATCT GAGCTTGAAG
82251 GTGCAGTGCC CGAAAACAAG TCTGAACTAA GCCAGGAAAG AGAGTCTTCC
82301 CCCTCTCTGG TATGTCTTTT TTAGTACAAG AGTCTTTCAC TCCACAGTAG
82351 CCTATTAGTT GTAAAGCACC ACAGCCTGCC ACAGGAGGGA GTCAAGATCC
82401 CATGCACAAC GTCTGCCTGG TCTACTACGC CTGATTGAAG GTGTTCCCTT
82451 GTAATCAGCC AAGTCCTCCA TAAAGTCAAA TACAAAGCCC CCACCAGAAG
82501 GAAGATCAGG TTACAAAACT TAGATTAGCT GAATTTAAAT ATAATTACAG
82551 TGGGAGCTAG CCCTACACTG CAATCTAATG AGGATGCAAA TGAACAACCA
82601 AAGCTATACT GAGGAATACT TGTAATTGGT GTGTTTGAAA TATTCCTAGT
82651 GCAACACAGA TGGGAATCTT AACCACGAAG CGTTCCATGC ACTGCTTTTA
82701 CAACTACAAA ACCTTGGCAA AGACTATGTT TTAAGCCTGG CTAACAGCCT
82751 CTTTATCCAA CAAGGATTTG AACCGCATCA GGTAAGATAA CTGTACCTTG
82801 TAACCTCTGT GGCGCTGACC CCCAGCTTTC TGGCAACCAT ATGCTTCACT
82851 GTTGTCCCTC CATGTGTATT TTTGAGCATT GGAGGTGCTT CTTGGAGCCA
82901 TATCTCTTAG GGTTGTTGGG AAAGAGACAG AAGTATCAGC TTTCAGTGCT
82951 TCTGTTTAAA ACAAACAAAC AAACAAAGTC AAGACAACAC TCTGTAGAGC
83001 AAAAATAAAG CAGAAGACCT TTGACTTTTG GCATATCTAA CTTGAGCCAG
83051 AAGTGCGACT ACAGCAAAAA AATGGCCTAT TCAAGCTGTC TGCAAGCTGC
83101 TTCTGGGCTA TCTTTCTATT TGCAGCTTTG CATTGCTGGC TTTCCTCTTT
83151 TTCTTCTTTC TTTCTTTTTT TTTTTTTTTC CCCCTGCTGA ATGATTTGGA
83201 TACTTGAGAA TCACCCAACA CATCTTGCAT CTTCTCTAAT TTTTTTTTCT
83251 TTTCTATTTT TTTAAATTTT TATCTGGATA CCTGCATACT TCAGGTATGC
83301 AGTTTTCTGT GGGAAGACAT TGTCATCTAG AGGCAAAAAT GTATATAAAT
83351 AATAAGAAAG ACACAATAAT AATCTCTTTT TCAAAGATTA TCTGAATCAG
83401 CTTCTGATAG TTGATGTTTC CAAAGCCAAA TTTTGTCTCT TTCAGTCAAG
83451 AAGACCCTCA GAATTTCTAA AACGTTTCTG AATTGTTGAC TTCATGTTAA
83501 AGAGAATAAG CTCTGAACAG GTTTGGCTAA TTCACAATCT TTATTCTGCT
                           V gene exon 2
83551 TTACAGAAAT ATCTAATGTG CAGTAAGGAA CTATACAGAG CAGCCCTTGA
83601 AACAGTGGAC TTCCAAAGGG CTCTTGAAGC AAGCAGGCTA AAAATTAATG
83651 ATTGGGTTGA AAGCGAGACA CAAGGTAAAA CAGAGCAAAA CTGTAGCTGT
83701 GCTATCTTCT CCCTCTTCCA GTGCTCCTTC AAAAAGAATT CAGCATATGA
83751 TAAGTCTTGT TCATGTTTCT AGGTTTCTCA TGCCCGTCAA AGATAGTTTG
83801 TTGTTCCCAA TCATTCTTTA GAGTCATCTA CCAGCTAAAC TATTTCTGAG
83851 TTAAAGATGT GTTTGTTGTC ACATACTGTC ATACTCCTAC CCACATGCCT
83901 AGCAAGATAA CTGCAACAGT ACCTCTAAGG GTTAAATAGA TTAATTGCTC
83951 CTGCAAATAG CCAACACTGC AGGTACAGTA AAGCAGAGGA CGGAAGTTAT
84001 GAGCGTCACA GTGAGACTGG GAACAGCATA GCAGAGAGAG AAGACACCTG
```

Fig. 1-32

```
84051 AGGACCTGGT GTTGACCTGC TCTGGTCGTA CACAGAGCAA TGCTAACAAA
84101 GATGAGTGAT GTGCCCACCA GAGAGATTTC ACTGTTACAA GTAACAACCA
84151 ACCAGCTTTT GCCCTTTACA GGCACATAGA GGTCATTGGC TTTTTTTCTG
84201 ATTAAGCTGA ACATGAAATA TGCCACTTTT ATTTTGTCAG AGATGCAACA
84251 TCAGCAGGGT GAAAACCTTA TAAATCTTCC AGCTGAACTT AAGCCAGAAC
84301 TTACTGAGGG AAATTACTGA TGGATGAATA GATTTGAAGG CTTCTGATTT
84351 CTTAATGGTC ATATCCTGAC CAAACCTGTC CTTGGGCTGA CAGAGCAGCC
84401 TGTGACTAAT GTGGGAAAGA GCTGCAAACC CCAGACCATC ATTGCTCTGT
84451 GTGCCTGTAC AAAGCCTGCG CGCTTGGGAA ATCCTACTTC ACCTCTGTAC
84501 AGAAAAAAAA AGGGTAAAGG GAAAGATGCC CTCATGTAAA CTGAAACAGA
84551 GGATTAATGG CGCTGCGCCT TTTACTGTGG ACAGGTGCCA CCTGGAACAT
84601 TCATTTTGCC ACTGATCCCA CAGTAGGCTA ATTTGATGAT CGGTGCCCCT
84651 TCCTCTCCCT AACAGGCCAG TACTAGGTAA CAGTGCTGAG AAATTTACCA
84701 TTTCTTTGCT TGTATCGTCC CTGTTCTGTG AAGAAACAAA CAGTTGGATT
84751 TCTAAGGTAC TCTAAAGCTA AGTTCACAGA CAAGTAATTG AGTCTCAATC
84801 CAGAGCCTTA ATAACAACTA ATAAACACCT GTGTTTTCCA AAATTTCCTC
                            V gene exon 3
84851 CAGGTAAAAT CAAGGAACTT TTTGCTCCAG GAGTGATTGA CTCACACACC
84901 ATTCTGGTGC TGGTGAACGT GATCTACTTC AAAGCATCCT GGGAACACAA
84951 GTTTGAGGAG AAAAATACAG TACAGAGAGA TTTTAAACTG AATCAGGTAG
85001 ATATGCATTG TATAAATCTT AGCATGATTT ACCTGAGTTA GCATGATTTA
85051 CATGAGTTGC AACGACTCAG CATTTTGTTT CAATGGCTGA CAAAACACAA
85101 AGCTTCAGCC CTGATCAGCG CTTTTGAACC TAATAGTCAC TATGGGCAGC
85151 TGTCATGGAT AGAAGCCAAT TGCAAAGATC TCATTTCACA CAGGCTCTGT
85201 GGGGCCATCC TGGCTTTTAT GCATCCCGTA CAATTCAGCG TGAGCCATGC
85251 AACAGATAGG TTAAACCAAA CCAATCAAAA AAAGAGGCCA GATATTAACA
85301 AGCCACATAT ATGAAGATGG AATTTGAAAC AGGAAAAATC CTCACAGAGT
85351 GTTTTGGTTT ATTTATAGTA TCTGCAATGT TTAAAAGGTT TTTTTTAAAA
85401 TATTTTTTTT ATTTTGATTC CTTTTTTCCA CCGTACATAT AAAATGGAAG
                            CR1-GG
85451 TTTTCATTGC TCAACTAAGG TACAGAATCA TAGAATTACT CAGGTTGGAA
85501 AGGACCTCAA AGATCATCAA GTCCAACCGC AGCCTAACCA TAGTACCCTA
85551 ACTCTAACAA CCATCTGTTA AATCATATCT CTGAGCACCA CATCCAAACG
85601 GCTCTTAAAC ACATCCAGGG ATGGTAACTC AACCACCTCC CTGGGGAGCC
85651 TATCCCAGCG CTTAACAACC CTTTCTGTAA AGAAGTGTTT CCTAACGTCC
85701 AACCTAAACT TACCTTGGCA CAACTTGAGG CCATTTCCCC TCGTCTTGTC
85751 ACCTGTTGCC AGTGAGAAGA GACCTACCCC GCTCTCACTG TAAGCACCTT
85801 TCAGGTACTG GAAGAAAATA ATAAGGTCTT CTCTCAGCCT CCTCTTCTCC
85851 AGACTAAAAA GCCCCAGCTC CCTCAGCTTC TCCTCGTAGG ACTGATTTTC
85901 CAAGCCCTTC ACTAGCCTTG TGAAGCTGCA AAAAGTTCTT TAACAACCAC
85951 ATTAATCCAA GCTCTGTACA GCTCAAGTCT AACAAATGTC TTCAAAAAAG
86001 ATGATCAAAA CCATTTTATT TCATTTAATT CAGTTTTGTC TTCATTCCAT
86051 ATGCTGTGCC TATGTTACAC TAAATAATGA AGCCGCCAAA AAAATGAACC
86101 CACAAAAAAC ACAGATTTAG CTCTGATCTG AAGTTGAAGA GCTTTGTATG
86151 GGAAAAACTG TATTCTAAGT GTTTCTTATC TATACAAACA AAAGGTCAGA
86201 AAGACATCTG TTGCTAGCCG TAGTGTTGCA CTGCCATTTA TTAAGACACG
86251 TAAGAAAGTG TAATTTTGGT CCCTTAATTT TTTTACTTGA AATATGTCTT
86301 TGAATTTGAA TACTGAAAAC TGACCTTAGG TAGGAACATT TGGAACACTG
86351 CTGCAGTCAC AGAAACTATG AGATTGGGGG AATCTGCATA TACTTTTCTT
86401 CATGCACTAA TTAATAATGT TCTCTACTAA AATTCTTCCG CTGATTTAGA
86451 AGGTAAGTAA AAACTTAGCT AATGGTGAAA TGAACCTTGA GCCTTTACAC
86501 AGGATTTGAA CAAACTCATC ACAAAGAAA ATGAGGCTTA GAAGACCTAG
86551 AAGAACATGC CTGAGATTGC TCTTAATCTG TCTATTGCTT CCTGCCTAAA
86601 ACATCTACCT GATAAATGAC AACCTGATTC CTGCAGTGCT ATTTCTTCTC
```

Fig. 1-33

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86651 TATCCCATTC CAAACCAGGA CTTGCAAATC CCATCAGCAT CAGCTTGTTT
86701 GGCTGGAGAG TAATGGTATT AAGCCACTTC ACTATCTGAT CAGTTGCAGG
86751 GAAATTGCTT TGTTTTATTT TGCCCCCCAG AGAATTATCT CCTTTATACA
86801 TGAATGGCAA AACTGATGTT TTACGTGTCG TTGTATGTGC AACAAAATAA
86851 AGAAAAAATG TTTAGCTTTA TAACAATTAC TGCTGCAAAC ACAGACTACT
86901 GATATTGCAC CTGAAGTTTA AACATTAAGG TCTGTATTGC TTGTGTGATC
                                     V gene exon 4
86951 ATTCCAATTT CTTTTTAAAT AGAATGAGAG AAAGCCAGTA CAGATGATGT
87001 ATCAGAAAGG CACATTTAAA CTAGGCTATA TTGAAGAGCT GGGAACTCAG
87051 GTGCTTGAAC TCCCTTACGC TCAGAAGTTG CTTAGCATGA TCATCCTGCA
87101 CCAGGAGAGA CAGCAGATGG ATCTCCCAGT GGGGCTGGAA CAGGTAAGGG
87151 TGAGGACTGC GGCTAAGCCG GACTGAAAGC TGGTTGTCTG AATTAAAGCT
87201 GGGCAAAAAT CTAAACTTGT TAATTTCCCC ATCTTCTAGA CTGAAAGCAC
                       V gene exon 5
87251 AATGACCTAT GAAAATTTAA TGCTGTGGTT CTCTTCCGAA CATATGTTTG
87301 AGATGGTGGT AGAGGTGTAC CTGCCCCGAT TCAAGCTCGA AGGCACCTTT
87351 GACCTCAATG AGGTATTAAA AGCAATGGGA ATGACTGACA TCTTCAGTGA
87401 ATCCAAAGCT GATCTTTCTG CATTGTCATC TGAGAAATCC CTGGTGTTGT
87451 CAAACATTGT CCACAAGGCT TATGTGGAAG TCAATGAGGA GGGTACTACA
87501 GCAGCAGCTG CTACAGGAGC TACCATTGTG AGGAGGTCTC TTCCCCTCAT
87551 AGAGGTGTTC ATAGCTGACC GTCCTTTCTT ATTCTTTATT AGGCACAATC
87601 CCACCAGTAC CATTCTTTTC TTTGGTAAAT CTGCTCACC TTAAAATCAA
87651 GGCCATCTTC TAGCATTGTG AGAAAAACCT GGATGAATCA GAAATACTAT
87701 TTTTCCCCCT ACACCTTCTT ATTCCTATGA ATGATTGTAG ATCAAAGTAA
87751 TCACTGCAGC CAACCTAGCC TAGAACCATC AATTGAATGC CCTCCTGTTA
87801 TGCTCCTTGA ATGGCAAATA TTGATCTGAA TCTAAAACAG GAGTAAGTTT
87851 TCCCTTAACC TGACTGGAAA TCAAGAATAT TTTGTTTCTT CAAGGCGTAC
87901 ATACACTCCT GTATAGCCAA GTATGTCCGG CATAGCCAAG TAATGTAGTA
87951 CACTATTTGC CTGGCAAAGG TAGAATTTGT ATGCTGCTAC CTGAGGAGAA
88001 CTGTTTGTAA CAATTTTCAG TAACTGCCAG TAAAAGTGGA GTATTTTTAT
88051 TTTCTCTGTA GTTTTTGATT TCCTGCCAGG TGGGACTTGA TTAACAGAGA
88101 GGGGCTTTGG AAATGCTTTA TACTTATACA TAATCTGTAT TTGTGGCAAA
88151 TCCTTCGCAC AGTGGAGATC TCACTTTGAT AATTCCCTTT CCTGTAGCAG
88201 CAGTCACAAG CAAGCAGGAA ATACTTATTT ACAGCAAATT CACGTGTTTA
88251 CTGACAACTG TACCACCTTT CCCCCCATGA TGTATGCTGG ATCTATCCTT
88301 TTGCCATATA AAACGTTTAT GCTAGAAGCA GCTTTGGTTT CATTTATTTA
88351 TTTAGATATA AGCCTGCATC TGAAGCACCA ACTCATCAAC TGGAAGATAG
88401 ATGGAATATG ACATATACCC CTTTCACAAT CCCTTGGTTT TTTCCACATG
88451 AGTTCTGTTA GAAGCACTGT ATTTTTCCTT TTTTAAGATA ACAACAGTAG
88501 GAACACTCAT GGAAAGGACA AGATTACGCC TCATGAACAC ATCTAGTAAG
88551 AGAGTTGATT ATAACAGCAA CTGAGTATGT GGGAAGGCAA GATTTTGACC
88601 CTCGTTTTAC AGGATTTTTT GGCACTCTTT TTTGAAAATA AATCCACCCT
                              CR1-GG
88651 TAAAGAATCA CAGCATGGTT GATGTTGCAA GGGACCTCTG GAGGACATTT
88701 TGTCCAACTG TCCTGTTCAG GCAGGGCAAC CATGTCCAGG GGGCTTTTGA
88751 GAATCCCCAA GCACAGAAAC TTCACAACCT CTCTGGACAA CCTCTTCTGA
88801 GTTCCCACAA TTTTGAATGA CACCAAAGAG AATTTTGTAT GCGCAGTGTC
88851 TGCAGGAATG GGATGTGAAA ACACACATTT CTAAAGCTTA ATTACTTACA
88901 TAGTGAAGTA ATTGGTTTTC TTCCTTGAGT TCTGCTCTCT GGTGAAGTTT
88951 AATGATCTGA GATGCATGTA TATAGATATA CAGGTCTCTC CAGCCCTGAG
89001 GAATGAAGAA AAGTTTTGAA AAGGGCAATG TAAGCAATAG AAATCACAGT
89051 CAAATATTAC CTGGAAAACT TTTTAGTCTG AGAGATAATT AGAAAAATAG
89101 AATTAGCAGC TGACTGATAG AGAGACATAA CTGTTAAGTT GCTGGTTTAA
89151 CACAAGTAAT ATCTTCCTCA CAGAGTTCTA TGTGAGGTTT AACTAACTAG
```

Fig. 1-34

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89201 CGTTGGCAAC TTGTGCTTTG TGACCTATAA AAAGGCAAGT ATACATTAGC
89251 TATTAGTCAT ATAATTGAGT GTAAAGCTCC ATAAAGTAAT TCATGATTAG
89301 CACAGTTTAT GTACCAAAAG TTACCTGCGG CTCTTTGGAT AAGAAAGTCT
89351 AGGCATGATG TTCGAGCAAG AACAGGCAGG AGTAGGACAA TAATATTCAA
89401 ACAACTTACC CTTACTGACT AATCTGAAAG CACAGTACAA TGTAAGCAGT
89451 ACTTTTCCAG ATTGTGTCCA TGTTTCCATT CTGGAGGCTG ACAGCACAGA
89501 TTGCCTACTA AGCTATGTTT TTATTACCTC CAGGTGTCAT CACTTGGTTT
89551 TTACATACCC TGGGGAAGTT CTGAGCACCA CAACCTCAAA CATCAGTCCC
89601 ACTTCTGCAA CGACAGGAAC AGAGATTCCT GTGATGAAGC GTCGAATAAC
89651 ACAGTGTCTT GCTCCAGTTG TTGGAGGAGA TGGTTCATGA TAAATCTAGA
89701 GTGAGATTAA GACACAGATG AGGTCAAATG TCATCCAGCT AGTTTATGAC
89751 AAATTCTAAG CAGTTAAGGA ATGTGGGAAA CATGGCAAAG TTAGCAACAG
89801 TAAAGGGAGG AATTCTAGCA AACTGGCTAT AGAGCAGGGA TACTCACCCC
89851 CATGGATCTA GCAGTATCCC ATTGGTTTGC AGGAGGTTGC AGGTCAGTCA
89901 AAGACATATC ACTGATCTGC ACAGCTGCAG TTCAGTGGAG GATTGTCTCT
89951 GTTCTACCAC TGAACTCTTC AGGCTTTATC CTCTTCATTC TGCTCTCATG
90001 CACCTTCAGT TACTCAGGGC CAATGGCATG TGTGCCTCCC ATTGGGTGAT
90051 CGGCTGTTGA TCATGCAGCA ATCACACACC TGCCACCTGG CACGCTGTTC
                                                     CR1-GG
90101 GGCATGTGTA CTGACTTAAT GGAAGAGACC TTTTAAGCTC ATCTAGTCCA
90151 ACTCCCCTCC ACTGAAGAGG GACACCTACA GCTAGATCAG GTTATTCAGA
90201 GCCCCGTCCA GCCTCCTCAA TGTCTCCAGG GAAGGGGCTT CTACCATATC
90251 TCTAAGCAGC ACATTCCAGT GCCCCACCAT CCTCACTGTA AAAGAATTTT
90301 TCTTTATATC CAAGCCAAAT CTCCCTTCCT TTAGTTTGAA ACTATTTCCC
90351 CTTGTCCCAT TACAACAGAT CCTACTAAAG AATCTGTCTC CTTCTTCTTA
90401 AGAGCTCCCT TGAGAAGGGA GCTCTTCTCA GGTCACCTTG GAGCCTTCTC
90451 ATATCCAGAC TGAGCAGTGC TAGTTCTCAG CCCGTCCTTG TAGGGGAAGC
90501 ATTCCATCCC TTGGATTATT TTCCTCTGGA CTCACTTCAA CGTCCATGTC
90551 TCCTCTGTAC TGAGGACTGC ACATTTGGAT GTAGTACTCT AGGAGAGGCC
90601 TCACCAGCAT AGAGCAAGGG ACAGGATCAC CTGCCTTGCC CTGCTGGCCA
90651 TGCTTCTTTT GCTGCAACCT AAGATACGGT TGACTTTCTA GGCTGCAAGG
90701 GCACACTACT GACTCACGTC CAGATGCCAT CTACCACAGT ACCCCTAAAT
90751 CCTTTTCTGG CAGGGCTATG CTCCCTCTTT TCGTATTCCA GCTTGTAAAT
                           V gene exon 6
90801 GTAGTGGGGG TTGCCATAAC CCAGGTGCAA GACCTTACCT TTGGATTTGT
90851 TGACCCTCAT GAAGTTCTCT CGGGCCCACT GCTTGAGCCT GTATGGATCC
90901 CTCTGAATGG CATCTCATCC TTCAGGAGCA TCCACTACAC CATACAGCTT
90951 GGTGTCCTTT GCAAACTTGC TGAGGGTGCA TCAAAATCCT GTTGACAATG
91001 TTACTGATGA AGACACTAAA GAGTACTGAT CCCAGTACTG ATCCCTAAGG
91051 AACACTACTG GTCACTGATC TCCATCCAGA CATTGAGCCA TTGACCACCA
91101 CTCTCTGGGT TTGATCCCGC AGCCAGTTTC TAGTCCACTA GTCAGCACAC
91151 CACTGATCAT AGCCACACTC GAAGGGCAG TCATGCAAGC ACCACCCTGG
91201 GTATTTATTT CCCAGCACTC TAAAGCAGAG CTCTTGCTCC AGCTCATGTT
91251 ATTTTCTGTG TGGCAAGGAG TGAGATTCAT CGACTCTAGC AAATGGAACT
91301 AATGGCTCCA TGTGCCCCAG GTCTCAGCTC AGCACCAGCC AGGCCAGGGC
                                             V gene exon 7
91351 TGAGTCCCCC CACATCCAAC CCATAAGGTC CCAGAGGACT CCTACGTTTA
91401 CCAGTGGTGC ACAGAGATGA GTTTAGCCCA AGTCCACCCC TCAGCCTCAA
91451 CTCCCTTCAA CACCTCTTCA CCAAGAGGCC CAATCCATCA CTCCTTACCA
91501 GCCAAAACAT ATACTTGTTT AATACCACAG CCACAAAGC CACGTGGTAA
91551 GGTCTGAAGA GACCAAAACT GTGGTTTGAG TAAAACAGAA GGAAAGCCTC
91601 TACTCAGTAC CCCACTTATG ACTGAGTTAC TAGGATAGGA CCTGATTCTA
91651 CAGCACCCCA ATACCCTGTA GATGTATTCC TTTAATTCTT CACACCAGAT
91701 TAAGGCTGCT GCCACCACCC ACCACAAATA AATCCTTGCT TAGGCTGATT
```

Fig. 1-35

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 91751 ATAACTTACA CCTGTGGCTT CCACAGTCAA ATGAGATTCC CAGTGCCCAC
 91801 CTGCGTGTTC AACTTCCTTA AGGCAAAGCA TCTTGCAGTT AGCAGAGTGT
 91851 TAAGAAATCT TCTTGTATTT CCTTTAACAC ACGTTTATCT TCCCCAGTGA
 91901 TGCTGAATTT GCAAATGCTT TAGGGAAAAA TTGGCAGCAA GTCCTTACAT
 91951 AATTACTGTT TAGCCTAGAA AATAACAACC GAGGTAGAAT ACTTCAGAAA
 92001 GTTTCTAATT TAAGGTTTTT TTCTTGATGA GAGAAAGTG CTATCAGAGC
 92051 TGTTTAGTAA TTCCAGTCAT GCATGGGTAA CTCATTCTTC TGTGTTAGGG
 92101 TTTACTGAGA GGTGAAGAAA CAAGTAGTTT CTTTTCCTTA TGAAAAAAAA
 92151 AAAAAGTGGT ATTAGAAGAA CCCCATAAAA GAATGCCAAA CATTGCAGCT
 92201 TATGATGTGC AATGTGTCAC TCAGTCTTAC AGATGACACA GCCTGGAAGT
 92251 AAGCTTAAAA AAAATGTTTA ATTCCTAACT TCTTTTGACA CCATCTGTGC
 92301 TGTGGTTTAT GACATCCATT AATAATGTTT ATCACTAAAC AACAACAGAT
 92351 AGAGAGACCA GAAACTAAGG ATGCTGCTGT CATTTCCTTC TGATGCAAGG
 92401 TAGAAACATC AGGAAATTAA GGCACACTGA AATATTTTGT AATATTTTGG
 92451 ACTAGAAGCA AAACCAGAAA CTGAGTTGCA TTTGTCTCCT GGAGTACATT
 92501 CTACAGGTAT TTAAAAAGAG ACAAAAACCA TAAATCTACT TGAATTTAAT
 92551 TTGAAGTATC AAATGAAAAA GATGTACCTG ATTTTATTAT CCTCCACACT
 92601 GGTCTTCTGA ACTTGACCAA TCCCACTGGT CAGTTACTGG TTTACGACTG
 92651 CTCAAGCTGT TTGTAGCAAC TATGTTGTAC CACAAAATAT CTGAGCCATT
 92701 ACAAAACAGA AGAGTCATTA GGCATTTTAT CTCCAACCCA AAGCATACAT
 92751 GCATGTTTTA AAATCTCAAA TTCTCCTGAC TTTAATTGTG CATATTATGT
 92801 TCACCAAACC TTTTAGAACC TGCCTTGTTT TTTTTGTTCT GGTCTGTAGC
 92851 TGGGAGTCAG AGAAATTCAA CTGTGATTGG AAAAATGGTT ACTGGCAAGC
 92901 TATAGAGTTT CTAAGCCAGA AGGTGAAGAA ATACTACTTT TTTAACACTC
 92951 TTGGCCTGGG ACTAGACTTA CAGACATGAT CAATATTGAA AGGCAATTTG
 93001 GAGGTATACA TTTTAACATG TCCTCAGTCT GGAGTTAGCT GTGTGTCCAG
 93051 TTTCCTCTCA GTGTGAGTCA AGCAATAGCA TTAGAAAGTT ATGCCCCAAG
 93101 TCTCATCCCC TCCTATTGAA ACTTGGCACA GCACATTCAG GCTGTAAGCC
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V gene exon 8

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 93151 ACCAGGTCAC AGCCCCCTTA AAGGATTCGG CAACAGCTGT GGTTGCTATC
 93201 ACATGGTGTT GATCATCGTT GGGCCCCTCA CTGTAAGAAA GACATTGAGA
 93251 CCCTGGAGCG TGTCCAGAGG AGGGCAACAA AGCTGTTGAG GGGTCTGGAG
 93301 CACAGGCCTT ATGAGGAACG GCTGAAGGAA CTGGGATTGT TCAGTCTAAA
 93351 GAAGAGGAGG CTCAGGGGAG ACCTTATTGC TCTCTATAAC TACCTGAAGG
 93401 GAGGTTGTAG TGAGCTGGGG GTCGGCCTCT TCTCTCGTGT GACTAGTGAT
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CR1-L

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 93451 AGGACTAGAG GGAATGGCTT CAAGCTGCGT CAGGGAAGGT TCAGGCTGGA
 93501 TGTTAGGAAA TACTACTTCT CTGAAAGGGT GGTCAGGCAC TGGAAAGGGC
 93551 TGCCCAGAGA GGTGGTGGAG TCACTGACCC TGAAGGTGTT CAAAGAGTGT
 93601 TTGGATGTTG TGTTGAGGGA CATGGTTTAG TGAGAACCAT TGGTGAAGGG
 93651 CGAACGAATG GTTGGACTGG ATGATCTTCT GGGTCTTTTC CTACCTTAGT
 93701 GATTCCATGA TTCTATGATC ATTACACTGG ATTTGATACT CTGTGAGCAA
 93751 AGGCATTGAA GTGGTACAAA AAATTCAACA TTCTGCATTA AATTGTAGAA
 93801 TCTGGCAAGT GGAAATCGTT TTCTATAGGC ACAGCCACGC ACTCAGAATG
 93851 TGTTTGCAAT TTGCTTGCAT TTAGTCTTCT GCAAGTAATG ACTGCTTTCT
 93901 GTATGCAAAT GATTGATCCA TGTGAAAAAA TCTGCTTGTG TATCTGTGAA
 93951 TCAAATGCAT TGCTTTATAA TGTGCATTTT GGATCATTTA TTTGTGGAAG
 94001 TAAGTGTAAA AAACAGAGCC TGCAATTGTG CTTCTGCAGT ATACAAGGCG
 94051 TTACTCAACT CCAGCTGTAC AGTCAGTCAG GCCCTGAGAT AATCTAGACT
 94101 TATACTTTCC ATAGTTATTA TAATTTTGTC TCTTACTAAA TCTTTGATTC
 94151 TGCTTGTTTG ATAAAGTAAC ACTCATTTTC TATATAGTAT TACAATCGCT
 94201 TCTAGAAGGC ATTACATCAC TGAATTCATA GGCTTTCTGA AAAACAGATT
 94251 CAGAAATCAG ATTTTCTAAC TGTATTTTTC CATGTATATG TATTGGAGAA
 94301 CTAGTGAAGA ACGTGTTTAA TATACAGAAC TACAGATAAA TCCAGAAAGG
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Fig. 1-36

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94351 AGAAGCAACA CTCAAAATAA GGATGTGGCA ATCCTAAATA GGCTGTAAGC
94401 TGGCTTGAAG CATGTCCCTC CAAAAAAGCC ATCTGAGAGA AAATTTCTCA
94451 TTTACCATGC ATGTGCAAGT TTCCAAACTC TGCAGGTATT TTATTTTCTC
94501 CTTTTGCAAA TTCCCTTGCA GATGGCATTT TGCTTTGCTT GCTCTGAACT
94551 GCGTTGATGT GAGCAGTGAG GTGCTTTTCT CATGCTGAAA TACAAGAATA
94601 AAGAAGATTG AAGCACAGGT CTGTGCAGAA CATCTAGTGA ATGTATTCAG
94651 GGCATGCCAA GCACAAGCTA TTCAAATATT GCTCCCTGAA AATGCAGTCA
94701 GAGTGGACTT CATGTTTTTA AGTGGAAGTG GTACATAACT TCTGTAGTGG
94751 AGAAATCGTG TGACTCAGGG GGTGAAGGGC CTATCCTCAG TTAATCCCAT
94801 ATTCTTGTTG CAATATGGGC CTGCATCTTC CAGCACTGTC AGACTCCAGG
94851 TTTTAGCATA AGATCAGTGG AAAAAAATAT ACACAAATAT ACCCCTTGCT
94901 TCTGAAGCTC TGCCCTAATT GGGATGATTG CAAATAAATG AAAAAAAAAA
94951 AAAGGGAAAT TCAAATACTG ATGATAACTC TGCAGTTCAA CAACCAGGAC
95001 ACCTAGTAGG TGAGTTCTGG CTTCCAGTCC CTGCTGCTAG GACTATTCTT
95051 GTTTTAATGT TTAAGAGAAA ACAAGTATTC ACACATGGGT GAGTACCCTA
95101 GCAATAATGA CAGAGAACTA TTCTGCTCTA TAGCATTCTG ATAGTATGAA
95151 TCTCGCCTTA ATTCCATAGT CTTCTCTTAG TACCACGTCC CCCAGCTCCT
95201 GTTGTCTGAA TTAAGCAATC ACTGTGTGAC ACCTACGTCG GAGCTTAGCT
95251 CCATTACACT CAATGAAATC AGTTGCTGGT CTTCTGTGGA AAATATACTA
95301 TTGCGCCCTG AGCAGTGCTG AGCACAGCAC CTGTTTGCCT AATATTAATG
95351 CAGCACTCAG ACCACAACCA GCCTCAAGAC ACTCAGCAGA AGGAATATTA
95401 TGAAAACAGT AGGTGCTGCT CCTGAAGCAT AACAGCCTCC AGAGATGGAA
95451 GACAAGAAGA TGTGCTTTGG TAGTGTGTGG TGCTCATTTC CTTGTTCATG
95501 AATGATGATG GGAATGACTC TGGAAGACAC ACCAGAGGCC TCTGGTGTAT
95551 ACCCCATGCC TCCAGCCTGG GCAACTCCTC CTTGCTGCCT TTTTGACTTG
95601 TTTTGTGCAA GCCATCCATC CAGAGGTGCA GAGTGAAAAC AACCATGGAG
95651 CTCAAGAAGA GCCTCATCAG GTCCATACAC ACTTCAAACC CAGAGCAAAA
95701 CATTGGAGCC TCGGGCTCAC TGCACAGTTC TGCTGAAAAC TGTGATGAAG
95751 AGCTAGGGGT TAGAGGAAAA ATGTGCTGTA GTTATCAGTG CAGCTCCATC
95801 ATCTGTTCCG GGAGCATCAA GGCTTCCTGG AGAGAACATT ATCAGAAGGA
95851 CACAAATTAT TCAGTGAGAG GGAGAAGTGC GCCTCTGAAC GCTCTGAGTC
95901 AGATGCTTAT TTTGTGAATT TTTCTGTTTC CCTCTTCCTG TTATGCTTCC
95951 TGCAGATACT TGGCACATCC TTGAGGCGAT TCAGCAATAT ATGCTCATAT
96001 TCAGCCACAT CTACAGAGTG CCTCCTCCCT GAGAGGAGAA AAATATTTGT
96051 TTTAGGGGGT AAAAACCAGAA TAGCTGTGCT TGGACCTCCT GCTCTGCTGT
96101 GGGACAAGAG AAGCTAGGCT CCTGGTAACC TCAGGAGGCA GAGGGAGGCA
96151 CATTATAATT TGGCTAAGAC TTGAAAATGC AATTTGTTGG TATATTTGGT
96201 AAATATACTG ATGGCCTAGT CCCATAAACT ACCTTCTAGA TGTGGAGTAA
96251 GTGGTTTAAA GGCATAGCTA AGAGGTTGCA GAAAGAAAG GACCACATCC
96301 AATTTGGTAG CAACCAACAT CCAGCATTCA CAGACTCATG AGAAATACCT
96351 TTTAATTAAT TTATTTATAT TAAATAAAAA AAAAAAATCC TTTGATGACT
                                    MAR (0.81)
96401 CACCCTGCTT TTCCTGTTAC TCTCAGTTGG GAAGAAAGTA ACCGCTGGGT
96451 ACATACTACT GCAATTTCAG AGCTGCAGAC TTGAAGAGCT TTCCCAAGTG
96501 CTGAGATATG CAGGAAAAAA AACCCTGTAA ATTACAGTAC CAGGCATTTA
96551 ATTTTGATTG CTAAATAAAG AAGACTCGTG ACAGTCCATG ACTACGTCTT
96601 GGAGGGCTGC AATTACATAT GAAATATAGT CTGAATTAGG AGAGTTACTG
96651 GCAGAGGCAA AGTTTGCATG CCAATTAATT GGTAAAAGGA GAGTACGCCA
96701 AACACAGGCT GTGGACTGCT CTGATGAACT GAGTATGTAA AAAATAGCCA
96751 TGTGTGTTTT TCAGTGAATA CCATGGTATA TGTCTGGTTT GAGTCAAATA
96801 TGTATTAAAA TGAAAAAAA AAACAACAAG AACAGTGAAA TAAACAGTGC
96851 TAGCATATAT TAGCTTGTAT AATCAGACCT ATATAGTTTT CAAATAAATC
96901 TTCAAGGAGA ACAAAATGTA TAGTATGTAT GATAAGGATA AGTACTATAA
96951 AACATCATCA TGAGGAGTGC CAGTCTGACA ACAGGAAAAG GAATTCAGCG
```

Fig. 1-37

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97001 TGTGAATGAA GGGGAAAGTG TGACTGAAAC AATTGTCACT CAGCTTACTA
97051 CAGCAGAAGC AATCATTTAT GATCTTAGAT TTTTTTTTAT TTTTTTTTTT
97101 AACTTGCTTC AGAGATATCT AAGTAATCTC AAAAACAGGA ACAAAATACC
97151 AACGCAAGGA AAAATTCTAT TTTCGCTTCA TATAATCTTT TCTTTTTTTT
97201 TCTAGTTGCA TTCTTACCTA AAAACAACAA CAACAAAACA TTTAAACAAT
97251 GTTTAAATGT TTACTGCTGG TTTGATTACA TCAAACCGAG TTGTTGCTGG
97301 AGATGACCAG CTATCAAGGT GCATAATGGA CTGGCAGATG TGCTTGGTCT
97351 TACCCCAGGT TGCTGTGCAA ACACAATACA CATTGACATA TAAGCTACTA
97401 TGAGTTCTGA AGGGCAGTTT AGACATTAAT TCTACTCCAG GCCAGACACG
97451 CTGACTATCT GAGTGGTTTA TAGCAAGGGA CTGGTTGACT TCAAAGTGGT
97501 TCCAAGTCAA CCACTGCCAA GTGCTTAAGA CTGTGTATGC ACAACAGAGC
97551 TGATCATCTC CAGTGCAACA AATAACATGA GAGCAAAAAG CATCTGAAAT
97601 TCTGTAAATG AGGCTGTTCT GGCCACACCT TGGCTCATTA AAAGACTTTG
97651 AGAGATGCCA GAATAGCCTC TGCTAAATGT GATGCAGATG GACAAGCTAT
97701 GGAATGAATG GGTCCAGGGC ATAAGGAAAC ATTACCCTCA AGCACTACAC
97751 AGGAGCTGCT GAACAACCAC AGGAAAGGAA ATGTGAAAAT GTGAACAGAT
97801 AAATGTTGGA AAGAGCCGCA TTTCTGCTGC TTACTATGTC CTTGATTATG
97851 CCAACATTAA GGAAGAATGG CAAACCCCGT GAATTGGTTT AGGAACAGCT
               Y:OV-1 element
97901 CTACAATGGA CTGCCTGACG GAGGAAAAGG GCAGCAGAGT CCTTGCTGAC
97951 CTCTTTCTGG TACAAACACA GATCTGGAAC AGAGTTTAAC CAATTAGTCT
98001 TGCTTGCATT CATGCCTCTT GAATTTCAAG AGGTGCCTTT GATTTCCCCT
98051 GGCCTAACAC CCCATCTAAA ATTACAAAC CATATTTTGT CTGCTGAGGA
98101 CTGTGCACGG ATAGCCCGTT CTGGTCAACA TACTCAGGCT GCTTCTGCAA
98151 CAAGTTTTGC ACTGGCATTC AGTGTAGAAA AAATGCAAGA CCTGTGTAGC
98201 GGCAGACTTC TCTCTGGAGA ACATGTATTG CCTCAACTAT CTTACCTGTG
98251 CAAAACTGTT GTGGTGACTG TGCTATTGCA GAGGTAGAGT GTTCAAAGAA
98301 GGCAAACGTA CTGAATGAGA GAACACATCA AAAACACCTT CATGCCCTCT
98351 TCTAGGGGAG ACAGCGAAAC AAAATGTTTA TTGAGAAAAT CTTGGACATC
98401 AGTCCAAGAG ATGAAAACAC TGTCCATATG TGCAGGGCTG GTTGTGTTCT
98451 ACAGGTCCAT GCTGCATAGA TGACCACAGA GGACAAAGAC ATTGAAACCA
98501 AGCATACAAA GGGCTGTGGG TACCCAGGAA AGTTCTTCAA GGAAGCCTTG
98551 AAGGGATGTT TGAGTACCCA CCTGACCTGT AGCTGCAACC CTGATGTAAA
98601 CATGTGAAAA TGGGAGCATA AGAGAAGACA CTACACACTG CAACAAAACC
98651 TGTGCCCTTG GGGAGGAAAA GTTTGACAAG ATAAAGTAGA AGCTATTGAA
98701 AAAGGAACAT TAAACAAGAC AGGAGGAAAG CTTCTTACTA TCTGTAGATT
98751 TCCCTACTCC CGACATGACT ACTGTCATGT TGACAGATAA AAAATACTCA
98801 TTTTGAGTGT GGAAACTGAA AGCCATTCCA GTTATCATGG TCTGCACATA
98851 CACACATGAC TGAATTTCAG CAACACAAAA CACAGTGCTT ATGATAAAGG
98901 AGCTCCCTTT TACCTTTACC AGTGGGTACC ACCACCACTG TGTACTGTCT
98951 GTCTTAATGT GCAAAAATTT GGGATTTCTA TTATTCATTC CCCTGGCCTT
99001 AACAGAAGCT GGATTTTTTT CTTTAGTGCT CATCAAGGGC ATTATTCAAT
                                SDRE fragment
99051 AAAGAGTAAT AGCTTTTTAC AATTGACTAA TATTTGATAT TGTGCATTAT
99101 GATTGTCTAA CAGACCATGA ATGTTCCTTC AGACAGATTT GGTAGTTTAT
99151 TTACCTGTCA TAGTAAAATA GGAGGTACAG AAGATCTATG AGAATAGCCT
99201 GTGCATGTAC AATGGGCCTT GTTGCCATGA CCTATGAAGA ATGAAAATCA
99251 AAAGCTGACC ACCAATCATC CCTTGAATTC CACTGGCTGT TCAGCATTCA
99301 CTTCTGAATA TCTGAATACT CTGGAGTCTG CCTTCGCAAA GCAGCAAATA
99351 CTTTCAGACT GTTCCCTAAA TCTCTTCCTC TTACCTATTC ACACTGAGTT
99401 CTCTAATTCA TCCCAACACC TCTGCTCTGA ATTTTTTCAT AAGAAGCTTC
99451 AGCAAAATGT GCTTTCTCCT CTCAAATGTA TGCTGCAGAG CCTTTGGCTT
99501 ACAGTGGATA TAGCCCAAAT TCCAGTGAAA AACTTCAGTC TTGCCTAGGT
99551 GCAGAAATAG ATGGAGCTGT GCTTTTAACA AGTACTAACT ATAAGCTTCT
```

Fig. 1-38

```
 99601 TCAGTTCTCA AACTCTTTCA GCAGACCAAA ACATTTTTCA GTACAGTTTT
 99651 GTTCTTTAAA AAACTCATAA AGCTTTGTTT CTATTCTTAC ATGGAAAGCA
 99701 ATCCATTACA AAATCCTCAA AATAGAATGA CCATCCTGCA GCTGACTCTG
 99751 CTTGGAACTG CATTATTTTC TCTACATCAA GTGGTTGCCA TCCATGAGAA
 99801 GCATCCCTAT GTTTCTCTGC ACACTGCAGT AAGAGATCAC GTATATATCA
 99851 CACTTTTCCC TTCACCCATC TTGGGAGCAG TGCTACAGTA AATTGTATAA
 99901 TTACAGTGCC CCAGAGATGA GAAGAAACTG AACAGCAGGA AAGGAGACAC
 99951 AGTCTTAAAA AGAAGAATGT TTTCCAGGAA TTGATGCACT TTCTTGCACT
100001 CCTTGGTAAT ATGGGACTAC TCTTGCCTCA CCTTTAGCAG TGGGTGCTCA
100051 TTAAATGGTG AATGGTGGTG GGTCTTCTGG TTCTCCAATC ATGTCTTATT
100101 TTCTCATAAT ATTTTGGGAT CCTTAGATTC ATCTGACTGT GAGAATCACT
100151 TGATCTGATT TTTTTTTTTA ATCTGATTTT GCAGCTAAGT TTATCTGAAG
100201 TGTATTATGC TTATCCTCTT TTTTAAGGGT TTTTTTTTTT TTTAAAGTGT
100251 GTGTATTCAT TATTCGTTTG GCTCTAGTTA TCGATATGGC TCAATCAAAT
100301 TAATGTTTAA ATTCTGAAGT AGAGCATGAG ACATGCTAGA CTTGAAGTTG
100351 GTACAGCTTT ATAAGATACA AGAAAAGCCT GAATAATTAC ATTCTACTAT
100401 TAGGTTTCAC TTCACAAAAT AAATTTGGCT TTCTCCAAGT AGAGTACCAG
100451 TCTAATGTTG GCCTACTCAG TGCTTTCAAG CACAATGAAT CAAAAGGCAA
100501 TGACAAAGGG TAGTAACTCA AAGGATGACT CTTAGAAGGC TAACAGGGGG
100551 AGTGTCCGAA AGGGTACTGT ATATATCACC AAGGACTCAG AGAATCTGTT
```

X gene exon L

```
100601 CAGGTTCAAC TGGCAAGCTG GATTATTACG AGCCTCTTTG ATGTTTTTCT
100651 GTAAGTACTT CTCCAAATAA AATGTAACTT CTAAGTTGTA TTCTTGAATA
100701 TGGAAAAAAC AAAACAAAAC AGAAATATAT TATGTAAGAA CTTAGAGGAA
100751 AAAAGGGCCG CCTTCTATTT TATGATGTTG GCCCACCACA TCAGAGGCAG
100801 ATGGTGGTGG TATGGCAGTA GAGGTTGAAC CTTCCCACCA ACACCCCGTT
100851 ATGTGTTGTT GCTGTGTGAC AGATGGCAGC AGAGGGGCAG TCTGACAGAA
100901 TGGCGTCTCA CATGGAAGTG TGTATGAAGC AAAGGTGTGT CACTGAATTC
100951 CTCCATATGG AAAAAAATGG CACCCACTGA CATTCATCGA TGCTTGCTGA
101001 ATGTTTATGG AGACAAAACA GTGGATGTGA GCACAGCGAG GCAGTGAGTG
101051 GTGTGTTTCA GCAGTGGCGA CAGTGACAGT TGTTCACCTC CACTGGTACA
101101 GAATTTTGCC AGCAGGAAAT GCAGATTCTT GTACATTGTG GGCAAAAATG
101151 CATAGCTAGC TGTGGTGGCT ATGTTGAAAA ATAATGTTCC GTGGCTGAGA
101201 ATCTGCTCAA GGAAATAAAG TTATTGTAAT CATTATAATA ATATTATACA
101251 TGTGCTTTCT ATCTATTGTA GTTTACATGA AAATAAATAG GAGGCATTAC
101301 TTTTGGTGTG ATCTGTATAC AGGACAGATA TGTAAAAAAT ATTTCTGGAA
101351 GAGAAAATTT TTGTTTTCAC AGTCTCACTC CCTGCAGAAC ACAGGTGAGG
101401 TACAGTAGGA TAATTCACAG AGCCTTGTTA GCACCAGGAA CCTCTCAGGT
101451 TATGTAGTAG ATCACATTTG CTACAAACTA TGGATATGCT ATTATTCCAA
101501 CTTAAAACTG TTTTAGAACG GGGAGGGCAC TATTCAGCTT TCTTGTTCTC
101551 GGATTAAAGA AAGAGAAGGA CTGTAGATTT CAATAATTTC CCCTAAGTCT
101601 TGACATTAAA TTGCATGTAC AAGACCTTCA CCTGGCTGAT CTGATGCAGC
101651 TTTACAGTGC ATTAAGTAAT TTAGCCAGAC TGTGTATTTA CGGTATATAG
101701 ACGTTTGTTT GTTTTTGTCA ACAACAAAAA AAAGGAATCA GCAGAGATTA
101751 AATGTCAAAA AATGAGAATA TAGAGAAGAA GCCCACTAAA GCTATAGTTT
101801 GGCATCTAAG CAACTGGCTA GATTTACAAA GAGATTCACT CTATAAATTA
101851 CAGGACAGCA ACCTCCAATT TTATGGCCAG TTGTACAAAG AAGCAGTTTG
101901 AAACAAGCTA AGACTATTGT GGTTTGACTA CATTTGATTG AAATATCCAG
101951 AGTATGGTCC AGAGTAGACA CAGAAGAAAT GAAATGTGTT TACATTGTCT
102001 CAAAAATCAT TCAGAGTTCT CTGGATGGCT ATAGGGAAAC TCATCTAGTC
102051 CACACTGTAT TCATCATACT GAAGCACAGA TGAAACTATC TATTTCCTAA
102101 AGGGCAAGTA CAAGATAGTG TTTTTATAAT GAACCAGTAC CTTTCTGAAG
102151 GAAAGTAAAC ATGCATTTGG GAAACAATGG GTCAGTCTTT ACAATATTTC
102201 TAATGATCAC AGAATTTTTA GGCTTTACAT TATTGTTTCA GCATCACAGA
```

Fig. 1-39

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102251 AACAGCAATG AACAAGCAGC TTCTGGGCTA CAGGAAGTAC TTTTTACTAC
102301 AAGTGCCACA CGTCAACACC ACACAGTAAT AATCCTGTTT CTTTTAGACA
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X gene exon 1

```
102351 ACACCGATTT CAGGATGGGC TCCATCAGTG CAGCAAATGC AGAATTTTGT
102401 TTTGATGTAT TCAATGAGCT GAAAGTCCAG CACACAAATG AGAACATCTT
102451 GTATTCCCCC TTGAGCATCA TTGTAGCCTT GGCCATGGTC TATATGGGAG
102501 CAAGAGGCAA CACTGAGTAC CAGATGGAGA AGGTAAGTTA TGCAAGTAAA
102551 TACAAGCTCA TTTTGATCCT GGTTAACAGA ACAAGTTATC CATGAAGATC
102601 TTTGAGACTT TCTCCCCTTA AGGGGCCAGC TGCTGTACAT TTGCCACTGG
102651 ATTTGAACTT GGCTAGCAGA AGGACATTGA GCCATGAGGT TTGGATCTGG
102701 AACTAACTTT TCACTTATTG CTTTTCACTA CAAAGGGTAA CAACAGTTTC
102751 TACTAAGGAG GAGATCTCCT GCTTCAGTTT ATATTATCTC ACAAACCTGA
102801 CTCCTTCCAG ATAAAATGAA CAAATTTTCA TGTATAAAAG ATGAAACACT
102851 CAGAAATCAG GAGTCACAGT TCTAAGTACA GTATGGGTGT AGCTGGTTTC
102901 TGGATGGAAA AATAAGTGAA CTAATTGGAA GATCCTATCA AAAAATGTTC
102951 AGAGCAGCAC ATGCAGTAAA AAAACAAACA AACAAACAAA CAAAAAAAAA
103001 CCACACAAAT TTCAACCTCG AATGAAACTT CTCAGTTCAG CCATTGGTTA
103051 TTTCAAGCCC AGAATTTGAA CACAAAATCC AGAGACTCTC AGTGAACTTT
103101 GCATACTTCA TTTCTTCTTC TGCTACTTCC ATTTGCAGGC TCTTCACTTT
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X gene exon 2

```
103151 GACAGCATTG CAGGACTTGG AGGAAGCACT CAGACAAAGG TACAGAAACC
103201 TAAGGTACAT TATTTTTCTC TCACATTCAC TTTTTTTTTT TTTCCTGAAA
103251 ACTTAAAAACT GTTCTGACTG TGCTTCCAAT AGGTCCAGCC CCTTCCCAAA
103301 CCCTAGCTAA TGCTCTCAAC ACATGATATG CAAATGAAAA ACTAAAATTT
103351 GTTCTAAAAA AAAAAAAAAT AATGACAAAA AGAAGGCTCA TTTCACATGT
103401 TGCACCAGAA AAAGTGATAG GATAGTTGAA GGACATTTTG AGCACCAGGA
103451 TACCTTCCTA CATTGATAAG AACTTGCACA CTTGTAGGGC TTGCTGGAGG
103501 ACCACACATG AACCATGTGT GCTTTTCTCC TTGGTCACTT GATACATTTG
103551 GAAAGATAAC ACAAGCCATG CTCCCAGGGC TGTCCTCATC CACTTGGGTT
103601 CTCCAAGCAC AATGTGGGGC TTGTAAAGGA CAAGAAGATT TTTCCGTTTC
103651 CTTTTCTTTT TCCTTTCCCC CTTTCACTTT TTCCTTTCCC CCTCACTTTC
103701 TCTCTCCTTT TCCCACTTCC CTCTTTCCTT TACATTTCCC ACTCTCCTCT
103751 CCTCTCCTCT CCACTCCACT CCACTCCTCT CCTCTCCTCT CCTCTCCTCT
103801 CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT
103851 CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT CCTCTCCTCT
103901 CCTCTCCTCT CCTCTCCTCT CCTCTCCTTT CCATTCTATT CTTTTTGCTA
103951 GAGCATTTAG ATGGTTATGT AGAACAATTC ACAAAACACA ATCAGACAAA
104001 TCACTCACAT TTTCTGTTTC TTATCACCAA GACTGAGTGT CACCAAATGC
104051 TATCAGTTGT ACATGCTTAT ATAGAACATC TCTCCCATGG AGCTTTTAGA
104101 CTCTAATGTA TTTTGTTTGC AAATGTCTGA ACACTGTGTG TTTTCCTACG
104151 TGATCTGTAC TTTATAAATA GTTGTCTTTC TAGTAAAATA AGCTAACATT
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X gene exon 3

```
104201 TATACCCTTT TTCCTCCTCT TCAACAACCC AGTGTGGCAA ATCCGTGAAC
104251 ATCCACCTAC TCTTTAAAGA ACTCCTCTCT GATATTACTG CATCAAAAGC
104301 CAATTATTCA CTCCGCATTG CCAACAGACT CTATGCAGAA AAGTCACGTC
104351 CTATCCTACC GGTGAGTTGT ACAACAGAGT GATTTTTTGC TAGATCCTGT
104401 ATAAACCCAT AATCCAGGAG TACTGCCCAG AGTATCTGTT AATCCAACTC
104451 ACCTCAGCGG TGTGGACTTC CACAGCTTTT CATTTGACAT TCTCAAAATA
104501 AAACACACAA ATATTCTAAA TCAAATACAT TTTATCTTTA AAAATAGAGA
104551 AAAATGCTTC AAAAATAAGG ATTTTATTAT AACAAAACAG TTGCTAATGG
104601 ATGCTAATGG ACCTGAAGCT GTTTTTGGAT TGGTATTTCT TCAAGAAAAT
104651 ATTTCAGCAT TTCTACTACG TAATCTTATC TGGTAAAGTA ATAAAAATCT
104701 TAAAGATCTT AACATATCAT GCATCGAAAT AATTTTGCTG GCCCAGTTTT
104751 AACCATTTCG TCCAGGAAAT AAGCCATGAA AACAGTCTAA TAGCATAATT
```

Fig. 1-40

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· 104801 ATAAAAATCA TGGAACATTT TAACTGCATT TTATTTCACC TTCACAGTCT
  104851 TTTTAAAAAC TGACTTGGTA GCTACAACTG TTGTCTTTAC AGATTTACCT
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X gene exon 4

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  104901 AAAGTGTGTG AAGAAACTGT ACAGAGCAGG TCTGGAAACA GTGAACTTCA
  104951 AAACAGCATC AGACCAAGCC AGGCAGCTTA TTAACTCCTG GGTGGAAAAG
  105001 CAGACAGAAG GTAAGCTCAG AGGAGAGTTT ATAATATACT TCCTTGTTAC
  105051 TACTTTACCC AAACAACTTC TGGAAAGACT ATTCCTTCCA TCTCCATTAA
  105101 TGGATATTTC CTGTGGAAAC TGATGACTCT TGCACACTTT TTTGTGTGCG
  105151 GTGACAGTGA ATTTAAATAT ATATGACAAA GGCAGGGATG CCACTGTGTG
  105201 CTTTCTGTGT AAGGAGAGCA TAACTCATGC AAGATTGGTC CCAGCTTCCC
  105251 TACAATATTG GCATCATTTT ACAAGCATAT GCTGGATGGA TAAGAAATGG
  105301 GCTTCCGTGG AAGAAAATAA TGTGGCCACT AAGTTGGTGT AAGAAAAGGA
  105351 ATGATTAAGA GTGTATGTAC ATTTATCAGG AAAAAGGTGG GAAGAAAACA
  105401 AGAATCAAGT ATTAGAAGGA AGCACAGTGA GAGGCAGAAG ATCGGTATCC
  105451 CTGCTTTGCT TTTCACTTCC TTCTGTTCCA TGCAAGTCTT TTTCCAAGGA
  105501 CGTTTGAGAT ATTCCTGGGG ATGTGTGTGA ACATTCAAGC CTACATGCCT
  105551 CCTTACAGAA ATGCCTGGTT AAGGGTTAGT TGTTCTGTAT GAAATCACTC
  105601 GTGAACTTGA ATTCCACATG CCATCATTTA AAGAACAGGA AGTCAACTCA
  105651 AGCTTGCTGG TTGACATCTA AAACAAAACA CTCCTGCAAT GAAAACAAAA
  105701 CCCCACAAAG CAGCACCCTC CAATCCCTTT GCCTCATACA TGCAAACCAG
  105751 ACAGACTGTG TCTTAGCACT CACTGCTTTG CTTCCTTCTT ACAGGACAGA
```

X gene exon 5

```
  105801 TCAAAGATTT GCTTGTATCA AGCTCCACTG ATCTTGATAC AACGCTGGTC
  105851 CTCGTTAATG CCATCTACTT CAAAGGGATG TGGAAGACAG CATTTAATGC
  105901 AGAAGACACT CGAGAAATGC CCTTCCATGT AACAAAGGTA GGGGACGTGG
  105951 TCACCGCTTC TGGGCAGGAC AGAAAGCCAT CAAGGGTGCG ACATACACCA
  106001 TCCTACAGTC ATTGGTCCAT GGTTCTTCTG GCCCCTCGC TGACAGGGCA
  106051 TGGGGCTGAG CCCAAGACAG GCTGGCAAAA ATTGTGTCTG ACCAGGCATC
  106101 CAAAGCACAC CTGTAGACAA GAGAGGAAAA TGGAGACACA GCTTGAGGAT
  106151 CCAGCCCAGT TCCTCTGAAG GACTTGCACA TCTGCCTGCT TCAAGAGAAA
  106201 CTGCCCCCTT CTCACATTGT CTCATGCTTC TGTTTTGCAG GAAGAAAGCA
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X gene exon 6

```
  106251 AACCTGTGCA AATGATGTGT ATGAACAATA GCTTTAATGT GGCCACACTG
  106301 CCTGCAGAGA AAATGAAGAT CCTGGAGCTC CCATTTGCCA GCGGAGACCT
  106351 GAGCATGTTG GTGCTGTTGC CTGATGAGGT TTCTGACCTG GAGCGGGTAC
  106401 GGCCCTGGCA GGGGAAGCCA ACTAGTTCGG AGTTCAGTGG GAGCTGGCTG
  106451 CTGTTAGACC TTTGGCTCTG CTCTCGCTCC TTGGCTGTGC TGTGCTGGCC
  106501 AGGCAGGGGA GCACAACAGT GGCCCAGGTG CTTCCAGGCG CTCAGGCAGA
  106551 GGTTGGCCTC TAAGGAGAGC CCTAGCCTCA ATGTTATTAA ACAAAGAGTA
  106601 CAGCAAAGAA TACAAAGGTA·AAGGAGCGTA GGGCTGCTGT AATGTTATAG
  106651 AAGGGCACGT ATGGGCAATT CTTTTCATTG AGAGGCAGTT TCATCTGGCC
  106701 TCTTATATAA ACTCTTCAGC AAATGTTACT AGAATTGATG AGGTTCAATA
  106751 ATCCCTAATA TTTTTGACAA TATTCTCATC AAATATTTTA AATAAGCTGT
  106801 TCTCAGAATA CCAAAGTAGA TGCAGAAATA TTTGTGTTTG TTTGGTACTA
  106851 TCCACTGTAT ATAAATTGTC ATGGCATTTT TTTTTTTGCA ATCTCTTTCA
  106901 CCAGCTGACC AATCTGCTAT GTAGTGAAAT TGCTTTATTG TTCTGTATGA
  106951 GACACGAAAA TATTTGTACA GAAGGGGATG TGTCAGGTGG AACCAAATAA
  107001 AGGAGCACTG AAGAGGAAAT ACTAGAGAAA CAAATGTTAA AATAGGAAGA
  107051 TGTTGATAGG ATGCACCTTG GGAAACTTTC TATTTTTTTG TAAAATAATA
  107101 GTCTTGATTA AAATGAACGA TGGAAGAAG TTGCATTCTC ATCACAGGCA
  107151 TTTTATTCTC TCCCTCTCTT TTCAGATTGA GAAGACAATT AACTTTGAAA
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X gene exon 7

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  107201 AACTCACAGA GTGGACCAAT CCCAATACCA TGGAGAAGAG GAGAGTGAAA
  107251 GTGTACCTGC CCCAAATGAA GATTGAGGAA AAATATAACC TCACATCTGT
```

Fig. 1-41

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 107301 CTTAATGGCA TTGGGAATGA CTGACCTGTT CATCCCTTCA GCCAATCTGA
 107351 CTGGCATTTC TTCAGCAGAG AGCTTGAAGA TATCCCAGGC TGTGCACGGG
 107401 GCCTTCATGG AACTCAGTGA AGATGGCATT GAGATGGCAG GCTCCACAGG
 107451 GGTGATAGAA GACATCAAGC ATTTCCCTGA GTTAGAACAG TTTAGGGCTG
 107501 ACCACCCATT CCTCTTCCTG ATCAAACACA ACCCAACCAA CACCATTGTC
 107551 TACTTTGGCA GATATTGGTC CCCTTAAAGA GAGAAAGAGC TGGCAATAAC
 107601 ACATACCTTC CCCTCAGAAA CAAAATCCCC TTACCGTAGT ATTATAGCAT
 107651 AATCTTATCT CTTTCATAGA AAAGACATAC CCGCAGGAGA GGAGACAGCA
 107701 CGAAGCACAC TTACTCCTTC CCTTCTTGTA TTAATTTCAG AATGGCTTGA
 107751 TATGAGCAAA GACTGAGCCA ATGAGATGGT GAGAATGAAG ACACCTATCA
 107801 GCCATTAAGG TGATAAGTGA TTTTCACCCA AGGAATAAAT AGTAAGAATG
 107851 ACCCTAAGTC CTTGGGAGCC CGTTACATAG AAAGCAATAA GCTTTGCTCA
 107901 TCCCATTCCC TGGTAACATA CTGCTGACAA ACCCACGTTA CCATTCCTGA
 107951 AACATGGGCT TTGAGATCTC CAGTCTAGAG GGGATGTTTG TGGAAGAGTT
 108001 TCTGGTGTGC AGATTATTGA TTTGTGATTA TGTCAATTTT ATTTTTCTTT
 108051 ATTTGGTAAT TGGGCAATGG TATACATGTT CACTATCAGT GGAGTTGTCC
 108101 TCTCACCATA AGTCCTCTCA CCTAGTTCTG AATTTCTTGC AGAGGTTTTT
 108151 CAAAGTCCTG AAGAGTCTCC CTTCCATTCC AGAGAAGGGA AATAGATCCA
 108201 GTTTTGCATA GGTGCAGTTA TGCCTTTTCT CAGAGTGCAG ATTCAAAGCC
 108251 TGAACCATAG AGATCCAGAT GATTCTTATG ACCCAGAACT CAGTGAGATC
 108301 CACTGGGCGA AAGAACTGTC TAAATTTTTG TTTAAAACTT TGGAAGACAC
 108351 TTCAAATTTG AGAACACCTT TTTGGTGAAA AATCCTGAAA GTGTTGTAAA
 108401 ATACTTCTTC TAAGAAACAA ATTAGAATCC TATTTTTTTT CTGTCTTCTC
 108451 TTCCTACGTA TAGATTGTCA ACTGCAGATG TGGATCCTCT GGCTCAATAT
 108501 TATATTCTGT TTTCATTCTA ATCACCCATT ATTGATTTAG ATACATACAG
 108551 TTGATTTTGT TTTGGTTAAC ATAATAAAAG AAAACCACAA ACAGTTTTCA
 108601 TGTAAATTAT ATTAGCTTTC TGAACCACAC ACTCTTAAAA ATATCTTTAC
 108651 ATTTTAACAA CTGTGAGTAA AACGTGATTT AGCAGAAAAA TGTATTCTTA
 108701 GAATGAATAA AGCATGCAGA TATGAAGTTT TTCAGGCATT TATGACATTT
 108751 TTAGGAGTAC CTGTTTTCAA GAAGAACTTC ACCAAAGACC TACAACCAGA
 108801 GTTTGATTCT TCTCTGTATT TCAGATGACA AGAAGTACCG CAATAGAATA
 108851 CAAAGTTATT CCTATCTATT TTTCTGTGCC ATTCCAACAG GCATTAAAGA
 108901 TGACCTGGCA ATTTTTTCTG GTAAATATTT CAAGGAACAA CTATTCTAAC
 108951 AGTTTTACCC TTTTATACAG AATCACAGAT TCATAGGAGC TGGAAGAGAC
 109001 CTCACGGGAT CATCTAGTCC AACCCCATAT GATTTCATCA TTTTATATGA
 109051 TGAAATAATC TGGAATTCAT ATAACTTGAA AGGCATAAGA AAGGTTAAAT
 109101 AGATCAACAG CTACTAGGCA AAGCATTTCC CTATGCAGAG TCTTGAGAGG
 109151 AGGAACTCTG ATGTTAACAT CGCCTATTTC CACATTAGTG TTACCACTGC
 109201 AGTGTCAATG ATAAAAGGTG ATCTGTAGAG TAAAAACAGC TGGTGCTACA
 109251 GGTATGACAC CCACATTTTT TGTAGATTAT CAGGATACTC ACAATACAGA
 109301 CACAGCTGTT TTTCAATGGT AAAACCAAAC ATTTTACCAA GTATACTTTA
 109351 TTTTTTGCCT TTAGAAATGG AAGTAGTGAG AAGAACAGTT CCAAGGTAAG
 109401 AGAAATATCA GCATCTCAAG GTTTACCATC AGTAGTTTAT TCATCTTTCA
                                    CR1L
 109451 CATCTCTTAT GTCCATAGAA TCATAGAATC ATAGAGGTTG GAAAAGACCT
 109501 TAAAGATCAT CAAGTCCAAC CATATCCTAA CCATACTACC CCAACTTTAA
 109551 CAACCCTCTG CTAAATCAGA AGCAGTTGAT CCACTCTGCT AAATTTAAAA
 109601 GCCAGTTCAC TTAAACAATA AGAAAACTAG AGGAAGATTA CATTTGCAAG
 109651 CTACTCTTCT ACGATTAATA GACTGGAAAG TGCATAAAGT ACAAAGATAT
 109701 GCCTCAATGA TCTGAAAAAC AGCTGAGGTC AAAATGGAGA AATGGGGAAA
 109751 AAAATTGAAG GTTTCTTGCT TGCAAGCAAA TATAAAGCTT CCCCTTTCTC
 109801 AAAAAGAAAA ACAAGAGACA GGAAAGAGTG GAAATTCAGC AATACTGAAC
 109851 AAAAATTGCA ACAAAATACT GATGGCCAAG CCCTGGCCAC CACTGACCAG
 109901 GCAGGGGGCA GAACATACAA AGGGCAGGAT AAAAGTGTTC TCCATGAAGG
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<p style="text-align:center">Fig. 1-42</p>

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 109951 GGGTGGCAGG CCTGGTGGGT GGGATGATGA ACAAAATAAA TACACTTTTA
 110001 AAACCTTCCT GTGGCTCCAG GCATTTTTGC CCCAGCCTAC CAAAGGCTAT
 110051 TAGCATTTTT ATTTTCTGGA GTATTAAGAC CCTGTTTCTT TGACAGACTA
 110101 CTGTGCAGCA ACTGACAGAA GGTTTAGTGG GTAAGTCACA GGGGATAAAA
 110151 TGTTCAGCAT AGACCAAAGC AAAAACATAA TGTCATGATG GGTGATCAAC
 110201 TGGCTAACAG GTTGGGCTCA AAGGATTACA GTTACTGGGG TTACATCAGG
                            CR1 GG
 110251 CTGGTAGGCA GTCACTAATG GGGTTCTGCA GGGCTCAATT TTAGGGCTAG
 110301 TTCTCTTCAG TGTTTTCATC AATGACTTGG ATAAAGGACT TGAAGTCATA
 110351 CTAAGCAAGT TCATGGATGA CACAAATTGG GAAGTGCCAT TGACTCCCTT
 110401 GAGGGTAAAG AGGCCTTACA GAGAGATTCT GACCAATCAG AGAGCTTGGC
 110451 AATCATCAAC TACATAAAGT TTAACAAGAG CAGGTGTCAT ATTCTGCACC
 110501 TGGGATGGGG CAGCCTTGGC TGTGTGTACA GACTGGAGGA CAAGAGGCTG
 110551 AGAGCAGTCC TGCCCAAAGG GACCTGGGGG TTCTGGCTTA CAGCAAGCTG
 110601 TATCTGAGCC AGCAGTGTGC CCTGGCAGCT CCAAGGGCCA ACCGTACCCT
 110651 GGGGTGCACC AGGCCCAGCA CTGCCACTGG GTGAGAGGAG GGGCTGTCCC
 110701 ACTGTGCTCT GTGCTATGCA GCTGCACCTC CAGCACTGCA TACAGGGTTG
 110751 GCTGCCACAA CGTAAGAAGA ACACAAAACT ATTAGAGAGC ATCCAAAGAA
 110801 GGGCTATGAA GATGGTGAAG GGTGTGGAGG GCAAGATGTG TGAGGATCAG
 110851 TTGAGGTCCC TGGGTTTGCT CAGCCCAGAG CAGAGGAGCT GAGGGGAGGC
 110901 CTCATGACGG CTGCAGCTCC TCACAAGGGG AGTGGAGGGA CAGTGCTGAG
 110951 CTCTGCTCTC TGTGACAGCA TGGGGCTGTG TCAGGGGAGG GTCAGGTTAG
 111001 GGGTTAGGAA GAGGGTGATG AGGCCCTGGA ACAGGCTCCC CAGGGCAGTG
 111051 GGCATGGCCC CAAGCTGCCC GAGTTCAAGG AACATTTGGA AAATGCTCTC
 111101 AGATGTAGGG CTTGGATTTT GGGTGGTGCT GTGTGGAGCC AGGACTTGGA
 111151 CTTGATGATC CTTATGGGTC CCTTCCAACT CAGGATATTC TGTGATTCTA
 111201 TGACAAGATG CACTACTGTT CTATGTGTGA GATACTACTG TTCTGTGTGA
 111251 GATACTAGTA GCCAAGGCCT TCACAGGGCC TTTCTGAATG TGCCTCCAGT
 111301 GAATGGTCAC CGGAGTAATC CCCTCTGTCA ACACTGAGAT ACACATCTCT
                         Y:OV 1 HOMOLOGY
 111351 GTCACCATCT GTGACAGGCT AAGGCAGCAG TGCAGGCAAC AATGTCAATC
 111401 TCTTCAGAAT GGCACAGCAC TGCTGCAGAA AGGGGTCTGG TACGCTGTGA
 111451 GCTTCTGTCT GAAAAACCTT GACCAAACAC TGGTATTCTT TGGACTAAGG
 111501 AAGCAACATA ATTCCATAGA ACAACTGAGT GGGAAATCAC CACTGATAGC
 111551 TATTGCATCA AGTTCTGCAA CAGCAACTAA GAAATCACTG GCAATCACTG
 111601 TGGGCAAGAC AAACACTAAA TGGTCAATAA GCTCCCTGCT ACTAGAAAAA
 111651 CAGTGGAAAC ATAAATGAGA ACAAAATCTC TAGTTGTGCA AAGGTTTTTG
 111701 TGGTAGAAGG AGAGACTTTG TTCTATGAGT TGACCTGGAC TTCATATTCT
 111751 TTTGGAAAGG ATCAGATGTC AAAGAGTCTG TTAGTTTAGG GACAGGCCCA
 111801 CAGTGAAATA CCTGGTAAAG CAAATAGCAG CTAAGTCTTA GCTGACCTCT
 111851 TTCATGGGAT AAGCATTGTC AAAAAAAGGA CATGTCACAA CAACACATCC
 111901 TTTTGTGTTT GTGCAGCATT ACACAGCTGC GCTGGACAGC GTAATCCATC
 111951 AGCTATCCCA GAAAGCATTT CACATACAGG AAGGTTTGCT TAATTTTGCT
 112001 AGACTTCACA ACAGATCTAA ACTTGATAAG TAGACTACAC AAGAAGTCCA
 112051 ATATTCTGAT GATTCTGCAC TGATGACTGA CCACGATCCA ATTTTTCACT
 112101 TACTGTGGAC TGATTTTTAA ATTCTGCAAC TCGCTTTAGA TTAACCATTC
 112151 ATTTGACAAA AAGAAAAAAT CCAACAGCAA CAGTTGGCTG GGATGTATAT
 112201 TAACTTTTTC TGGAGGAATC TGCTGCGCCT TCTCTATCAC AAAACAAAAA
 112251 TATTCCTCTC AGCACTGAGT ATATTTAACG CAGAGATATT TTGAAAGCCA
 112301 TATAATTACT AACAACATTA GTGCTCTGAA TTAGCTATTA TGACACAACT
 112351 GTAGTATCTT TGTAGATCCT GAGTTGTAGG CTGTCTATGA TGGCCCAAAC
 112401 ATATGATTCA GGCAGATGGT ACACAAATGC CCAGGGAGCT CTCCTATAGC
 112451 AAGCTGTAGC ATGTTGCTAG ACAGTTTGAT AGTAAAAGGA TTTAAGACAT
 112501 AATCAAAAGG TAGAGGAGAC ACAGTACAAC TTGTTGGATA ATCCTTTGAC
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Fig. 1-43

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 112551 TTTTGAGCTG TCAAGTATAC AACCACGGAC CATTGCAGTG AGTATTAAAG
 112601 CCTGTTTGAA CAGAAAACAT GCTGATTGCT AGCCTTAAGC AAGAAAGGGA
 112651 GAAGGGGCAG CAGCCACAGA AACATCTTGC AGTGTGAGGA GTGCTCTAAA
 112701 TTGTGTGATT AAAGATATTC ACCATGAACA GACACATTCA GTCACTTGAT
 112751 ATGTCTTCCA CCAGCACAGA TACCAAAATG GAACTCACGA CAGTGGTGAG
 112801 TAATTTACAT ATTGTTGAAG CAAGAGAATA GCTCACTCCC TTTATAATAG
 112851 GTTTGATGTG ATGGGCTACC AATAAGAGTT AAGGCCTAAT GATCTTTACT
 112901 CAAAAGTATT GCTGCTGCAT AGCAATGTCT GCACCAGACT GGACTGGGCT
 112951 ATAGATGGTA TCATGTAACA TACTAGTTGT AATTAAGTGT ATCAGACAGA
 113001 CTGAGGTCTT CATTATTAGT ATTGCTCTAG CATCTTCAGC TGAACAAGAC
 113051 TAATGAGGAC TCTATTAGGC AGAAAGGTAT GGACTATTCA GAGGCTGTTC
 113101 ACTTTCACAG ACAACTAAAA GGGTTAAGGA GTCCACCTCT TTTCTCCAGA
 113151 AAACATAATT TGTTCTAGAC AATTTCAGAG GCATTTGTA TATTGACTTT
 113201 GGAGTTCTGT TTTAAAATCA GAGCATACTC AGAGGTCAAA GTAGTTTGTT
 113251 TGTTGCCCAT TCTTTTATTT CAAAGGATTT ATGAGATTGC TTTATGCTTG
 113301 CTATTGTATA TTATGACTGT CCTGCAGACC ATGAATGTTT CACCTGATGT
 113351 GGCATGAAGT TACTTGTGAA CGATCTGTAA GAATGTTCTT TGAATGTGCA
 113401 AAAGACACAT TTTGAACCTC ACATCTGGTG CTGTGACCTG TTTGAAAAGA
 113451 ACAACTCAAA TCAACATTCA AAACTAGCAG TGAGTTCGAA TACTTCTCTT
 113501 GTAGCTTCTG ACTGGAGTCT GAATATCCTA ATATCTGAAT TTAAAAAGCA
 113551 ACAGAAGTCT CTTCTCTGCT CAACCTCTTC TGCGACAGTA CATCTTTCTT
 113601 CAGTTCTGTA TTTTTTTTTT CTTTTAATAC AGATGCTCTG AATATTGCTT
 113651 TCAAAATTAA TTTGGATTCA TACAGTATGC TTGTTGATAC TTTCCTACTG
 113701 ACAATCTGCA CAGACCATGT TGGCACACAA GGTCCCTGAG TTAGACTGCT
 113751 CCAGCAATGC TAGACTGCTC TGCAAAATGC TTTATTTTTT GCAATTCAGG
 113801 CTGTAAGTGG CATCAGGCAC AAGAACTAGA CAATTACATA CAAGTTTTCA
 113851 CTGTAGGTAT CCCTATTATT TGCAGAGGAT TTGGACTAGA TGGTCTTCAA
 113901 GGGTCCCTTC CAAATCAAAT GATGCTTTGA TTCTGTGATT TTATGAAAAG
 113951 TTGCAGTAAG TACAGGGTGG GCATAACACA GCAAGGAGTC CTGAATGTAC
 114001 TGCATTTTTT ATGTTCTCAG AATGGTGACT GCTAGAGGAA TCTGGACTGT
 114051 CAGTACTCAT AGAGGAAAAA AAAAAAAAA AGGAAATTGA CTTAAATTCC
 114101 TTAGAGACAT TGTGTACAAC TAAATATCAC ACTTTTTTTT TTTTGCTTTG
 114151 TTTTCACTAT CTGTGCCACA GTATTTGGTT CTGTGCTTGA ATTATACTTA
 114201 GTGTTCAAGT TTCAGTGAAT AGCTTTTATC ATTTTTGTTT CAATCTTATC
 114251 AGTATACTCC ATCCTTTTCT CCAAGGTGCC ATATGATATC CTTCCTTCTG
 114301 GAACTTTTAT TTAGAGACTT CTTTCTTTCT TTCCCTCTTC CATTCTCTCT
 114351 TTCTTTAACT TTTTCCTTTC TCCTTTCTTT TTTGTTTTCT TTTTTTTCCC
 114401 TTTTATCTTT CTTTCCTTCT TTTTTCCTTA TTTCTTTTTC CTTCTTTCTT
 114451 CCTTTTTTCC TTCAATTTCT TTTTTCCTTC CATTTCTTTC TTTTTTCCTT
 114501 CCATTTCTTT TCTTCCTTCC TTCCTTCCTT CCTTTCTTTC TTTCTCTCTT
 114551 TCTTTCTTCC TTTCTCTCTC TCTTTCTGTC TTTCTTTCTT TCCCTCTTTT
 114601 TTTTTTTTAA TTTTAATTTT TATTTTTTTT TTGTAAATAA AGGACTTCAA
 114651 CCAAGTAAAA GTGTGTTTCT GACACTGAGT TCCATCCATC ATTCAGTTTG
 114701 GCAAACACAG AATAGGCAGC ATGGGGTGTG TCATGACATT ATACAGGATA
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                                                     Y EXON 1
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 114751 TATTTCAAGG AGTTCTGCAA GGCTGTACCA CGTACAGCTG AGAAGCTGTA
 114801 CTCTTATCAT CACAGGTGAA GCTGATAAGG TAAGCATTTC TTTTGGTTAT
 114851 GATTCATGTT CTAACCCATT TTTTAAAATG ATCATAAGAC TTACAAGAAT
 114901 ACTGATGGAA CTTTGTGGTT TGTCATCAAG AACAGTCAAG AAACAAATGA
 114951 TTAAAGGATG ACTTCTTTAA AAATCTATTC TTACCTTCAC ATTTCTGTTC
 115001 TGCATTACTG TACTGTTTCA CAGCCTGCCA CATATGAAGT CAAAGTGTTA
 115051 GTACAAAGTA AAGCTATGTT TACTAATTCT GTAACACTGA GAAGCTGGCA
 115101 CTGTACTGAG ACACCCTTTC TTCTTTTTCA TTGATGCCCT TTGTTTCTGA
 115151 TTTAGAAATT AAATGCAGCA CTGAATTTGT TTAAATTCAA GACTTAAGCT
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Fig. 1-44

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 115201 GAGTTGCATG GTCTACCTAA CATACTTTCT GAATGAAGTT ACTGAATGCA
 115251 GCATGGTCAG GTATCAACAA CATACTGCAA ATTAATTTCT GTGTATTCTA
 115301 AAACAAGCAA ACGAACAAAC AAAAAACACA CACACACATG CACAAAGCAT
 115351 TTGCTTCAAC AGTATGTTTT TTCAACAAGA TCATACATGG AGCTTAAAGC
 115401 TTAAAATATA ATACTCTGTG GGAGTAGTAA ATAATCCAGA AGTTTGCCCT
 115451 CTATCACCTG CACATGTGAT TCAATTAAGA GAGAGATGGA ACACATGAAT
 115501 GTGTTGATTC CACACAATGA AACATTTGGC AGAATATCTT GGATTTCCCC
 115551 TGTACTTGGG AAATTCTACC CTAGGAAGAT TCTCTCTGCT TGTGACAAAA
 115601 TGGGAAGATA TAAGGACCTT AATACTGCAC TTTACAGCAC TGTTGTCTAT
 115651 TCTATGTTGT CTTCTTTACT AAAGAGTTTT TTTTTTCCTT TACTGTTAGA
 115701 TAAAATGATA TGTGTTGAAA CTACAGGGAA AATTTCATTA GAATGTCAGA
 115751 AAAAAAAGAC AGAAAAAATG TTTAAATACT GACGATGTGA AGTATCTGCA
 115801 AATGAAACAA GCCTAAACAA TCACTGCCTT ATTAAAAGGT GGATTTTATG
 115851 AAAAAGGTGC CAATAAAATT AAAGAACAAT TTTGAAAAGT GAGGTATAAT
 115901 TAAGTCAACC AAGAATGGAA CATGTAATAT TTAACAGACA TTTGTCATAA
 115951 AGCAGATGAG TTTGGTAAAT CATTATCTCT TTCTATCACT GTGCTTCCAT
 116001 TTCCCTAATC TATTTTTAAG AAGGTAATGA TGAGGTTTGA GACCTCTGAT
 116051 AAAGTGGTTG GTATAAGAAT CCAGCTTCCA TTTACATGAA GGTGGAGTAA
 116101 ATCCAGAAAA AAACTTGCGG TGTTTTTCCA GACCTACCCA CTTTATATTG
 116151 TCAATAACTG TAGTTTGGAT CACAGAGGGC TGATCTGTTA ACTGGTCTTA
 116201 AAAGTGATGT TAAAAACTAT AGTGAAAAAC CTGGTCTGGA GTCTCAGGTG
 116251 AATGAAGACT GAGAACAAAC CTATGTGTGT TTTCTTTCCT GCACAAGATG
 116301 GGAAACGATT GTCAATGAGC TTCTTTCAAG GCAAGTCTTT GCAATATTTT
 116351 CAACACAGTA CACATGTACA GAGGATAACT CAAGTTTCAA ATAAAACAGT
 116401 TGCCAGCCTA CACATAACTG GTACCTATAC AAGATTTGA TTGCTCACAA
 116451 ATCCAAGCAC ACACCTGCCT TTTAAATCCA CACTACTGAA TTCTACTTAC
 116501 TGAAAATAAG CTGTGCACTG TGTACAGAGG TTCAAGTGCA CTGACTTCCT
 116551 TGGAATACAA CTAATACATT TTAATCTTTT CTTTAGACAA CGATTTCAGA
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                          Y EXON 2
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 116601 ATGGATTCCA TCAGTGTAAC AAATGCAAAA TTTTGTTTTG ATGTTTTCAA
 116651 TGAGATGAAA GTCCATCATG TCAATGAGAA CATCTTGTAT TGCCCTCTGA
 116701 GCATCCTTAC AGCCCTGGCC ATGGTCTATC TGGGGGCAAG AGGTAACACT
 116751 GAATCTCAGA TGAAGAAGGT AAGTTGCTTA CATTGGTGTA AAGTGGACAG
 116801 TGGACTCTAC TTCTGCTTGT CATTCCTTCT AAGTAATAAC ATATTATCTA
 116851 CTCATGAGGC TCTCACATAT TTTAATTCAC CAGATGGATC ATGAATCAGG
 116901 GAATTGTATT ATTTTTTTCT AAATTCTGAC ATCTTCCACA TAATGTGATC
 116951 ATTTTTTTTC CATATTTTTT ATTTTTGTAT TAAAAAGATA AAACCCTGGA
 117001 GGAAAGGAAG AGGGAGAACA TTATTCGCAG TGCATAATAC ACAACTAAGT
 117051 TAACATCCAG ATGCTCACTG AAAAAAATAT AATCTAAGCA AATAGTGCTA
 117101 TTTCCAATTT CTCAGAAGGT GACATGAAGT ATGAACCAGC TGCAAGCTTA
 117151 CTTGCAGCCT TTTAGTTCAT CTAATCTAGC ATTTGTTGTG GGTTTTTTTT
 117201 TTGTTTCTGT TTTTGAGCCA ACAGCTCTAC CCCGAACATC ACGTGTAAAT
 117251 TTTAAATGCA TACCATTTTT GGTCACGCTT GTGTTTTTTT CTCACTGGCA
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                          Y EXON 3
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 117301 TTTTCTCTTG CAGGTTCTTC ATTTTGATAG CATTACAGGA GCTGGAAGCA
 117351 CCACTGACTC TCAGGTAAAG ATGTAACTTC TCTCCTTTTG TTCCTATTTT
 117401 CTCCTCAGGA CAAAACTAGA ACTACTCTGC CTCTGCTCCA AGCAGTTTCA
 117451 GACTGTCAAA AGTGGTGGCA ATGCTCTCAA ACCAAACAGA TCTGTGGAGG
 117501 GAGGAAAAGA GTGTGTAACT CACTCTTGTT TAAAGCCAGG GAAACTGACT
 117551 TGGAGATAGG TTTATTTGTC TGTTTAATGC ACCATCATCA GACTAGGTCT
 117601 GTGGGTGAAT TCCACCATGG CCTGACTGTT AGTGATGGGG ACAGTCCTTT
 117651 GGGGTCTGAT TTTCTAGATA AGGAGAAACT AATGTGACAT ATCATCTTGT
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                          Y EXON 4
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 117701 TTTCCTGTCA TCACCTCAGT GTGGCTCTTC TGAATACGTC CACAATTTGT
```

Fig. 1-45

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 117751 TCAAGGAGTT ACTCTCAGAA ATCACCAGGC CAAATGCTAC ATACTCACTC
 117801 GAGATTGCTG ACAAACTCTA TGTTGACAAA ACATTCTCAG TTCTTCCGGT
                              CR1 GG
 117851 GAGTTGAAGT GTGACTTAAC CTCAGTGAGA TTGCCCACTG GGCTCACCTG
 117901 GGACTCGGCT CTACTGTGAG CCACAATGGG AATTGGTTTG AGCCACAGGA
 117951 TGAGTTCAAA CCTTTCTGTG GCTTTTAGGA GGAGGCTAGG CTCACACAAG
 118001 GTATAAGGGC TCTGGAGATA TTCAAGACCC ATTTGGACAC TTTCCTGTGC
 118051 AATCTATAAT GAACCCCTGC AGGGGGTTCA AATTGATGAT CTCCAGAGAT
 118101 CCCTTCCAGC CCCTGCGATT TTGTGACTCT GTAATATATG CCCATGCAGC
 118151 AACTGCTACA GGGAGCAATC AAAATTGCTG CTCATTCACT AAAAAATGTC
 118201 TCTTAATGAA AAAGGTGATT TGTAAGGGAG GAAAATGACT TGAAAGCGTG
 118251 ACGACTGAAA TTGACAAAAA TATTTTGTTC ATCTTTTCTA AAACTAGACA
 118301 TAAAATAACT CACTTAAAGA AAGTTTTGGT TTTGAAATAA AAAACAGGAA
 118351 TGTAAGAATA CACAGTTCAA AAGAAAGGT AGGCACGAAG ATGAGGAAAT
 118401 GAGTATTGTC TGTCCTTAAT AATGTTTGCA GAACAGAAGG TTTTATGGTA
 118451 AAATGAAGAA AATATTTCAA AATTTTAACT TAGAATCCAA TCTGAAGACA
 118501 AAAGTGACAA ATCTAAATAT GTGAAGTAGC CTTGTCCAGC TTTAAGATTC
 118551 AGTTACAGCA AGAGAGCTGT TTGACTTGTT CAAGTGTAGG GATAGAAGTT
 118601 TCTTTTAACC ATCACTTTCC ATTTCATTAA TTTTGCATTT CATATTCTTC
 118651 TATTTTAAAG TTCTCAACAG TCAAACACAA TTCTTCTGCT TATAGGAATA
                              Y EXON 5
 118701 CTTAAGTTGT GCAAGGAAGT TCTATACAGG AGGAGTGGAA GAAGTTAACT
 118751 TCAAAACAGC TGCAGAAGAA GCAAGGCAGC TCATAAACTC CTGGGTGGAA
 118801 AAAGAGACAA ATGGTAAGAA GTAAAAAAAT AGCTGATATT TTCTCCTACC
 118851 TACTGTAATC TACGCTCTTG TCTTCTTCTC CTCAAAATGT GAAGAAAGGC
 118901 ATATCAAGGA ACAGCACTTG ATTATTGCTA TGAAAGCAAA CTCCCATAAA
 118951 ACTCACCATG CCCTTCATTG CAGGCATTCA TGCAAACCAG ACAGGCTGTG
                              Y EXON 6
 119001 TCTTAACACT CACTGCTTTG CTTCCTTTTC ACAGGACAGA TCAAAGATTT
 119051 GCTTGTATCA AGCTCCATTG ATTTTGGTAC AACAATGGTC TTTATTAACA
 119101 CCATTTACTT CAAAGGGATA TGGAAAATTG CATTTAATAC AGAAGACACT
 119151 CGGGAAATGC CCTTCAGCAT GACAAAGGTA GGGACATGGG CACTACTACT
 119201 GGAAAAATTC AAGATAAAGT GATCCCTACT CACATTGTCT CATGCTTCTG
                              Y EXON 7
 119251 TTTTGCAGGA AGAAAGCAAA CCTGTGCAAA TGATGTGTAT GAACAATAGC
 119301 TTTAATGTGG CCACACTGCC TGCAGAGAAA ATGAAGATCC TGGAGCTCCC
 119351 ATATGCCAGC GGAGATCTGA GCATGTTGGT GCTGTTGCCT GATGAGGTTT
 119401 CTGGCCTGGA GCGGGTACGG CCCTGGCAGG GGAAGCCAAC TAGTTCGGAG
 119451 TTCAGTGGGA ACTTCTGACT GCTTTCAGAC CTTTGGCTGT CCTCTCACCC
 119501 CCTGGCTGTG CTGTGCTGGC CAGGCAGGGG AGCACAACAG TGGCCCAGGT
 119551 GCTTCTAGGT GCTCAGGCAG AGGTTGGCCT CTAAGGAGAG CCCTAGCCTC
 119601 AATGTTATTA AACAAAGAGT GTAGCTAACA AAACAAAGGT AAAGGAGCCT
 119651 AGGGCTGCTG TAGTCCTGCA GCAGGGGATG TTGGTATATG CAAGTTATCT
 119701 CCATCAAGTA CTAGAGACAG ATATGCTAGC AGGATTTCTT TTTTTACTTT
 119751 GAAGAAATTT CAATTCCCAG AGATCAAGTA GAGTTCAAAC ACTGTTACCA
 119801 AGTCATAGGG ACCAATTCTG TTGATGACCG TTAATAGATT TTTTTCATGA
                              AT-RICH
 119851 GTCACCCCTC CAAATAATTA AATATAATTT TTTTTTTGTA AATATGAGGG
 119901 ATATTTTAAA TGATCATTTC TCATTGAATG TAGAAAAAAA TAGGAAAAAT
 119951 ATAACAAGAA AACAAACAGC ATTTCTGAGA GGTTAGCTGC AAACATCTGC
 120001 AAATGAGCAA AAATTTGATT TGACATAATC AAAAACTGAT TTTTCAGAAA
 120051 AGCATTTGAT CTGTTGGAAG AATTTTCAGA TGACAAAGTT TTGGAGAGCT
 120101 TCATCAAGAC AGATGATATG TAGGCTATAG TCAGGAAGAA GCACAAGGGA
 120151 TAAACAAATA GATTTAAGCT TAAGCGTCAC TTCTGTTTTG CACACAAATA
```

Fig. 1-46

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 120201 AATGAAATAA ATAGCAACAA GTGGTATTAA TACAGTTGGT ATGGCCACCA
 120251 TACTCCTGCT TTATGCATTT CATTGTCTCT TCTCTTTGCA GATTGAGAAG
                           Y EXON 8
 120301 ACAATTAACT TTGACAAACT CAGAGAGTGG ACTAGTACCA ATGCAATGGC
 120351 AAAGAAGAGC ATGAAAGTGT ACCTGCCCCG CATGAAGATC GAGGAAAAAT
 120401 ATAACCTCAC ATCTATATTA ATGGCCTTGG GAATGACTGA CCTGTTCAGC
 120451 CGTTCAGCCA ATCTGACTGG CATCTCTTCA GTAGATAACC TGATGATATC
 120501 TGATGCTGTC CATGGGGTGT TCATGGAAGT CAATGAAGAG GGCACTGAGG
 120551 CGACAGGTTC AACAGGGGCA ATTGGAAACA TCAAGCATTC CCTTGAGTTA
 120601 GAAGAGTTTA GGGCTGACCA TCCATTCCTC TTCTTCATCA GATACAACCC
 120651 AACCAATGCT ATTCTATTCT TTGGTAGATA TTGGTCGCCC TAAAGAGAGA
 120701 AAGAGCTGGA AATAATGCTT ACCTTCCCCT CAGAAATCAA ACCTCTTTAC
 120751 TGTAGTATTG TAGCATAATC TCAATGCAAT ATTTTATCCA AGTGGAAAGC
 120801 CTTCAATATC TAGGGAGACA TTCTTGAAGA AGCATGTGAA ATTTCAGATC
 120851 TTTATATGCA GGAATTTATT CTCAGCTTAG ATTCAGGATT CATATCCAAG
 120901 GTGTACATAT TCCCAATGTG CTTGAATAAC TTGGGAAACA GGGCCAGTGC
 120951 TTTGGGGTTT TTTTGTTTG TTTGTTTTTT GTTTTTTTGG TTTGGTTTGT
 121001 TTTTTTCTGG TTGGTTGTTT TTTTTTTTTG TGTGTGTGTG TGAGATTCTG
 121051 CCATTGTTAT TGAGAATCTG GTTTCTCTAT AGGAGTTCTC TGAAATAAAC
 121101 ACAGCTTTCA GGAAAATCCT GGTCCTTTCC ATTGAATTAG CTGGGCAGTC
 121151 ATCCTAGAAC TGATGCCTGG ACAACTTGCA GATGAAATTT TTAACTTCAG
 121201 CAGACCATTT GTCTTCCAGT AATCCATTTG GACTTATTCG TGCTGCGTAA
 121251 CATTTTTTCT GAGGGAGCAT ACAGAAAGTC TACCATTTCT TCTTAAATCA
 121301 TCTCCAAACA AAACATCTTC CTGATTGATA TTATTTCCCA TTTTCATCCC
 121351 AGTGACATGT CACTGATTTT GTGAATGTTA ATTAATGGTC TTTCTATTTA
 121401 TTCTAATAAA AGCTTCGCAA ACAAAACATG TCATTACCTA TTCTGGGTTA
 121451 CTGTACTACA CAACCTGAAA AATACGATAT AGCGGGTAAT AATTATTGAC
 121501 AGAGGTGACT AAGCTGGTAT GTGGATCCTA TTTTCAAAAT CAGAATGTAC
 121551 CCATATATGA GGTCACTAAA TATTTTAAGA TTAAAAAAAA AAAAAACAAC
 121601 TGGGTTTAAT CAAGGTAAAC CCTATAGCTC CTACTCTTCA ATTGAGCTTC
 121651 TCCCAATACA GCATACCAAA TAACAAAATT TTTTGAATTT ACTGAATTTC
 121701 CAGAGAACTT TTACAGAAAT CCTCTAAGGG TCCTCAGTAA ATACATGAAG
 121751 GTGATGTGTA CAAGATAGAA TTTTAAAATA TGAGAAAGGT ATTAAAAGGT
 121801 AGACTGCTTC AGCTTTCTCA TGCTGACAAG AATCACATGA AGAAATCTTT
 121851 CTATTGCCTC ATGTGATATT CCTCTCGAGA TGTTGTATGC TATTTCACGG
 121901 TCTTTAGAGG AAAGGGTCTT TAGGTTATAT ATTATCCAAT TATAATGGTT
 121951 ACTAGTGTTA ATGACAGTTT TCTGCTAGGA TACACATGCA GAATTGCAAA
 122001 TTACAGTATT GGTACTGAAA ATGTAGCGAT ACTTCAGTAA TTCAGAGCTG
 122051 CCTCAAACAC ATGCCATGTC AGCATTAACT ATAACTTGAA ATGATGACAT
 122101 TAGCAGCAGT GAAACACGTT TCATACCCAC TAAAAATGGG AGAAATGCGA
 122151 TTACTGGTCT TCCCAAGAGG GTCAGAAGGA TTAGGTACAG TTTGCACAAG
 122201 GATTCAAGTA AAAAAAAGTA TTTCAAGAGC TATGAAATTT CAAGTTTTAC
 122251 TGTGTACATC ATGTTATTTC CCTCTTACAG CTGAAATCAG TCAATACAGT
 122301 TTTGCTACAA CTAAAACCAA CCAACCAAAC AAACGGCAAA GGAAAAAAGG
 122351 CAGGACTGGT AAAATATTGT CCTGAGCAGC AGAGTGTGTA AGGTTACTAA
 122401 GCAGTTATAA TACTGTGTTG GAACTGAAAT ATGCAGCTAT GTCACTCTGC
 122451 ACTTTCTAGG TACAATAACA GTAAAAGTAC CCACATTTAC TATGGAGGTA
 122501 TTTAATATAT AGCGTAAACT AAAAAAACAG CTATTCAATT GTTTGATCTT
 122551 TTTAAAGCAA AAGATGAAGA AAATCAAGGC AGAAATGATA AATGAATTTC
 122601 AAAAACTATA CAAAGAGGG TATTCAAGGC ACAGAGTCCA CCTAATGTCT
 122651 TAACTGTGAA ATGGAAGCAT TTGACTTGTT TTAAAAAGGC CATTAGGTGT
 122701 CACTAAGGGT AAAAAGTTAC GTTTATCAGC TTTCAGAAAG AGGATGGCAT
 122751 TCCAAAGGTG CCTCTGAGCT CTGAAGCCCA GCAAGGGATA AGAGAAATGA
 122801 ATCCCAAGTC CAGCTATTGT CCAAAAGTCC TTTTTGTTCC CTGATACCAT
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Fig. 1-47

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122851 GACTGAAGTT GTCATGTCAA GACATTGCCT TCTGTCTGTT CACTACACCT
122901 CATGTTCTCT CAGTGCTGTG TTCTTAGAGA GGCAGTACTG CTAGTGGTCC
122951 GCGGAATGAA AACAGCCAGG TGTAATCACA CTCTTTTGAA TGCCTCATGA
123001 GAAGTGCTCT CTGGACTAAG TGTAACTTTC CTTCTCACAT CATTTGGAGA
123051 AGGGACCATC ACAGAATCAT TTGGAGACCA CCTGCATCTA TTCTGCACTT
123101 CTCTCCACAT TTGCCTATCG TCTTCTAAGC AAACCGAATC TATGGCTGAA
123151 GTTACAAGAC TCTGCATGTG GTGTCACAGT CACCAGAGGC AGAGGACTCA
123201 AGAGAATATC CTGGTCCAGA GCTACTCTGG GATCTCAAAA GTCACTTGGG
123251 AAAGCACAGC ATGTTGAACT AGACTTTGGT GTATTTTCC AATCTTTATC
123301 AGTCTACAAA ATATCAACTG GACATGGAGC AGTGGTTCAC TTTGGTGTTT
123351 CCTGTGGCTC ATGATCTAAG ATTCTTCAGT CTGGAAAATA AACTGCAGAG
123401 ATTACTGTTG AGGAGCAGCA AGTGTCAGTC TGCTCAGCAA GGGAAGGAGA
123451 CTGAGGGCAA GGGAAGGAGA CCGTGCCAGT AAGGCTAGAA GGGCCCGATA
123501 AGGGATCAAG TGCTAAATTT TCCAATATTA TAGCCATAGT TTAGTGATTT
123551 CCAGAGAAAT ATGTAGTGAT GTGGTAGGCC AAAGATCAAA CCAGAAGGCC
123601 CCAGAATGGC AACAGGTGAT GATCCCTGTG GCACATTCTC TATCTTGAAG
123651 TAAAACAGCA TGGATCCATA TAAATACATT CTTGCTCAAC AGCAGAAATA
123701 ACAAACAGTA TTGCTTACTT CTACGAATAT CCTAACAAAA CATGTAGATC
123751 ACAATGCCAC TGAACCTTTG TATGGATGGA ATCTGTGCAA TCTGCCATGA
123801 CTAAAGCTCT GTCCAAAACT GCACAACTTA GGGTGCCCAG CTTCTGAAGG
123851 GATGTGAAAT TATCTGTGCT ATCTCCTTTT CCCTTCTTGT GTTAGCTCCA
123901 GTAAACTCTA TTTTAAGAAA TACCTTACAG TTTCTGATTG TCTTCTTTAC
123951 TGGTATCCAA AGGGACTCCT ATGCATTACA GGGTCCTCCA GCACAGTGAG
124001 GTTCTTGGCC TGGTGCAGGC ATGCAAAGTA GCTTAGGCAC GGGTCACAAT
124051 CAAGATACTC AGTTTAATGC TTCTCCCAAG TGATGGGATG CTAAAATCTT
124101 ACATGATTTT AAAAGGAAAG TGTTCAAACT GTGGAAGAGA AATCCACTGA
124151 CAAATAAGAA AGATACAGAA AATAAAGTTA GCTATAGAAG ACATGGAACA
124201 GGAAATAATG TTAGAACTCT GAGGGCAAGA GTAAGCCTTA ACAGTAATGA
124251 CAAGCCTCAC TGGAGGAGCT CTTCCACATA CGTTGTTCTC ATGGGCCCAG
124301 GAGTCTGTAC TGGAAATTGG CACACAGTTT GGGTACCGGG GGCGATCTTT
124351 GTGAGATGAA GCCCTGAACT GCCCTGGGTC AGCTGCAGGT GTCTCTGTAA
124401 TGGATGAAAA CAACTCACTG TGCACCAGAT TTTCAGCTAA TAAGAAAAGC
124451 ACATGGCATC TCTGCTCAAA CAGAATCATA GAATTGCTCA GGTTGGAAAA
124501 GACCTTAAAG GTCATCGAGT CCAACTGCAA CCTAACCAAC TACCCTAACT
124551 CTAACAACCC TCCTCTAAAT CATGTCCCTG AGCACCACAT CCAAACAGTT
124601 TTTAAACACA TCCAGGGATG GTGAATCAAT CACATCCCTG GGGAGCCTAT
124651 TCCAGTGCTT AACAACACTT TCTGTAAAGA AGTTTTTCCT GATATCCAAC
124701 ATAAACTTAC CCTGGCACAA CTTAAGGCCA AATTTAATTA GAAAATGTAG
124751 CAGCACTGCA ATGTAGCAAA TGTAATTACG AAAAGGTGGT AGCTGCTAGG
124801 GACAGAGGAC ATGCAAATAG ACCCAAAGA TAAAGACTAG AAACAGAAAA
124851 AGGGGACATG TGAGAGGTAT GTTTGGAGAA ACATAACAGA GGAGATATTT
124901 GAAAGGAGAT CTTGGGAGCA CAGGCAAAGA CACAATCCTG GGAGGAGGTG
124951 CTCCATGCTA GAGGATGTAC CTCTAAGGCA CCGCAGCCAT GGGCAACCAA
125001 CACAGGTCAG CGTCATCCTG GTGAGACTGT ATCCCACAAG CAGCTAACAC
125051 TGGAGTAGGG ACAGCCCGA AGAACTGCAG CCCAGGCAGC ACACTAGAGC
125101 AGAGAAATCT AGTTAGCAGC AACCACTGGC AGACAGAAAT GATTATATAG
125151 ATTACATACT GACCCTAGCC TCTTACACTG CCTACTGCAT CACTGAAAGG
125201 ACTGGGAAGA AGAGAGTGCA ATAACGTAGC TGAAACTAGG AGGAAGGCAA
125251 GGAGAACTGA AGCTGACTAG GGAAAAGGGG GATTAAAGGT TTAAGTGTCT
125301 ATTCCATAGT TTGCTGGTTT GTTTTTTGTC AATTCCTGAA TCAGTAATTT
125351 TTATGTTAAT TAGCAAAAAA TTACAAACAC TCCCCAAGTC AGGACTGTTA
125401 CCTACAACAG AAGCTCAGAT CAGCTGAGCC TTAGTCTTTT GGTCCCTCCC
125451 TAGGGAATGC TGTATGTGTC TCTCTCTCCA GGCCTGCTCA AAATTGACCT
125501 CAGACCCAAA CTTTTGCTGA ATCTCCAGTA CCACCTCTTT TGCTCCTAAC
```

Fig. 1-48

```
125551 TAGATAACAA AGCCCTGAGC GCTTTGCTTT TAGCAAAGCC TTTAAGTGCC
125601 ATTACCAACT GCACCTGGAG CCTTTACCTA CCCCTATGGA CCCAGGCTCT
125651 ATATTTAAGC TCTGCCCTGA ACCTTCACTT CTTTCCTGTC CTAAGTTAGA
125701 TGTACTAGTA TGGTGTGTAC TATGTCTCCA GTTCAAACAC AGCTGTGCCC
125751 ATACCTGGCC AAGGACTCCT AGTATGACCT GGGCTGTGCC TTGCTGCTAA
125801 GGACCTGCTG GGTGATTGCT GGACCTGATC CTAATCCTGA ATTAAGAAAT
125851 GATTTCTTGG CTTGACTGGA TGTGCCCTGT GGTATGATAC TGCCTTATGA
125901 TTTGGACTCT TGTTTGCAGC TGTGCAAATC CCTAAGGAGC CCAGTCTCTG
125951 GCCACCTGGA ATCTTGTCAC TACCAAACTT CCTGAGGGAC TGGTCTTGCT
126001 CTGGGTTCTG ATCTCTGGAC AGTACTCACC CTTTACTCAG CCCAGGCTCC
126051 CAGTTAAGCC CCTTTCCACC CTGCCAGGCT CTCCGCTCCA TCCCTAGCAG
126101 GGGCTCTCAT GACAGTGTGA CCCCCCCTTA CTCAGGTCAG GGCCACTTGT
126151 GCCACGTTCC TTTCCTGTCT TCTGTCCCTG CCTTGGCTCT AAAGCAGTGT
126201 GCTACCATCC ACAACCACTG CATCTCTCTA AAGTAAGCCT CTCCTGAGCC
126251 CAAGTCTCTG TAACGAGGAA GGATGCACTT TGCTCAGAAG GATGCGAGGC
126301 TGCTTCTGAG CTCTGAGGGC ACTGACCTCC CATGAGGTAC ACCCCATACC
126351 CAGGACCACA ATTCAGCCTG CTGGAACCAT CAACTCCTGC TGGAGTAAGG
126401 CCATAGCAAG ACCAGCATCC ACCTCCCTGC AGCCCTGCCC TGCCCAGATA
126451 TTGGGCCTGC TGATCTCAGG ATGCAGACTT GCTTCTCAGC TTGACCTAAG
126501 CATTGCCCTG TCTTTATGGA CCCACCTGGT TAGCAAGTTC AGTGCAGAAG
126551 GAGGCTGTTG GCATCTAGCT AATTTTCCAC CCACATTACT GTCTGCTGAC
126601 TCATTCTACG TCTCTCCCAT CTTGTTACAA TAATAATTTG GGAGATCATA
126651 TTGAAGGTCT TAATAAAGTC AAGGCATGTG ATATTCTCTG CTTTGCCTTT
126701 GTTTCTAGAA TAAGCCACTT CATCATAGAA GATGAAAATG CTGATCAGCA
126751 GAGATCTGTG CTTGATAAAT CCATGCTGGC TTTTCCTATC ACCTTATATT
126801 CCTTCATATG CCTTGAGACA CCCAAGGAGG CCTTGGATCA GAGCTGTCTG
126851 TAGCAGTCCT AACTGGTATA CAATTAGTTG TACAACAGGT AGTGATCCGC
126901 ATAATAGTTG GCGTGAGAAA GTGGGCCTGT GCTGTGTCAA GCATAGAGTT
126951 TGGGTTCCAG TCCTGTTCTG CATGGCACAT ATGCCTGAGC AGCTGGGTAA
127001 TCTCTGCATT CCAATTGGAA GGCAGGGGCC TGTAGGCAGT TCCCACTTGG
127051 CATGGGTGAT TGTACCACCT GTGTCCTCAT CTGTGAAGCA TCATGTTTTC
127101 ATTCAAATAT CCTTTTGTTT GACAGTAGAA ATGAACAGAA TTGTTTTTTT
127151 TTCCTAAGCA AATTCTGCAA GAGCTCTGAA GAACAAGGTG TCAGTGAACT
127201 TCTAGCTCCA TAGATAGGAC TTGCATCACA TGTCATGCCT TGATTGGAGG
127251 TCTATCCGAT ACTGAACAAC TTGTGGTTCC CTGAGGGAAT GTAAGATTAC
127301 TGATACTACT CTCTCTTTAT GTTAGCTACA ATAAATGGTA GGTTAAGCAA
127351 TAGATACAGA GTTTGAGTGC CTTTCTTACA AGCATCATAG TGAACAAATC
127401 CACTGGTGAT CTACCTTTTC AATAACTACA GAGAATTGTA ATCTCTTGGA
127451 TTCTCCTCCT TCCCCGTTCT GAAAATGTGT TCTTTTTTTC CAAATCAGAA
127501 ACCTTCCTCA ACCACCCTGA CTATTCTTTG GACATTGTTT TGTTCTTGCT
127551 CCTAAATAGG CTTTATAATT TTTGTAAGTG AAAGGCTTTG CATGCAGGTG
127601 AGGCTACAAC TCATTCAGTA ACAATGAGGA AGACTGTCAG ATTTTGGGGA
127651 AAATTCTCCC ACCCAACCTT TTGCTAGCCA GTAAGATGTA ATCACTGAAT
127701 GTCATGCCAC AAAGACCATA CCAACATCAG ACCACATATC TACAGGAAGC
127751 TTTAAGGAAT CATTGACTGT ACAGTGAAGG GTAAATCAAA TTAAAATGAA
127801 TGTGAGGTCT GATACGAGAT ATCCTCATGG GAATCAAGAG CAAAGACAAA
             Y:OV-1 HOMOLOGY HS-III SITE
127851 TAGTTTTTCA CAGTCTTGTC ATGATCTGTC ACAGACCAAG GCAGCACAGC
127901 AGGCAACAAT GTTGGTCTCT TCAGAATGGC ACAGCACCGC TGCAGAAAAA
127951 TGCCAGGTGG ACTATGAACT CACATCCAAA GGAGCTTGAC CTGATACCTG
128001 ATTTTCTTCA AACAGGGGAA ACAACACAAT CCCACAAAAC AGCTCAGAGA
128051 GAAACCATCA CTGATGGCTA CAGCACCAAG GTATGCAATG GCAATCCATT
128101 CGACATTCAT CTGTGACCTG AGCAAAATGA TTTATCTCTC CATGAATGGT
128151 TGCTTCTTTC CCTCATGAAA AGGCAATTTC CACACTCACA ATATGCAACA
```

Fig. 1-49

```
128201 AAGACAAACA GAGAACAATT AATGTGCTCC TTCCTAATGT TAAAATTGTA
128251 GTGGCAAAGA GGAGAACAAA ATCTCAAGTT CTGAGTAGGT TTTAGTGATT
128301 GGATAAGAGG CTTTGACCTG TGAGCTCACC TGGACTTCAT ATCCTTTTGG
128351 ATAAAAAGTG CTTTTATAAC TTTCAGGTCT CCGAGTCTTT ATTCATGAGA
128401 CTGTTGGTTT AGGGACAGAC CCACAATGAA ATGCCTGGCA TAGGAAAGGG
128451 CAGCAGAGCC TTAGCTGACC TTTTCTTGGG ACAAGCATTG TCAAACAATG
128501 TGTGACAAAA CTATTTGTAC TGCTTTGCAC AGCTGTGCTG GGCAGGGCAA
128551 TCCATTGCCA CCTATCCCAG GTAACCTTCC AACTGCAAGA AGATTGTTGC
128601 TTACTCTCTC TAGACCCCCA AGTCAAACCA ACTATGCAGG TATGCTGACA
128651 ACACTATGAT GACAGCCTGT TCTGATCAAG ATCTCATTTG TTCATGGACA
128701 ATTTTTGTTG CTTGCAGCTG GTCTTCCATT GGGAAAGAGT GTAGTATATC
128751 CTTCTCATCT GACAGAAAAG CAGAAATTCT CATGCTCCAC ACTTAATCTA
128801 CATTGTTTTA AACCACCGGC TACTTCTTGG AGAGGAAAAA TGGCTTTTAT
128851 AAGACTCACA AAACAAAGCT CTGCAAGTCA AATGCATACA AAACTGTTCT
128901 GTAGGTCTGG AATCAGGACA CTATGTGGAA GTCAAATAGA GCAGCTTTAA
128951 AAAGCCTTTG GGATCATTCT CATCTTATAT TTGCAGCACG ATACTATGAC
129001 AGTGATAACT GACATAACTG CATCAATTTC CTTGATATTT TATTTGTCTT
129051 AAAGTACAAG ACATAGAGAT GGACGTAAAG ATGGACATAT GACTCAGGTC
129101 TGGACAGGTC CGTGGTCCAT GTATGATAAA AGAGATGAAG GGAAGGAGAA
129151 TTGAGACTGT CTAAGAAGGG CTTCAGGGAC GTTCTGAAGG CAGATTTGAC
129201 TGAATCAGAT GTACTGTCCA AGTCTCATAT GTAGCAATGG AAGGCTGATA
129251 TTGGAGAAAT ATAAAGAAAT GGCTGTGAAC TCAAAGTGAC CCTGAACAGA
129301 AAAGGGATAT GGAGTTAAAA TAATGTCACA GAACTGAGGT TTATATGATA
129351 TACCATGGGC TGCAGAGGGT CAGAGTGCTC CACCATGGGC CTCTCTTGGG
129401 CTGCAGGGAA CTTCTGTTCT ACACCTGGAA CACCTCCTGC CCTCCTCCGC
129451 ACTGACCTCA GTGTCATCAG GGCTGTTTCT CTCACATTTT CTCACTCACC
129501 TCTCCCAACT ACCATTGTAC AGCAGTTGTT CTTACATATT GCTCCTCCTG
129551 AGGTACATCT AGCATCGATC ACTGGCTCAG CTCTGGCCAG TGGCAGCTCC
129601 CTTTTGAGGA CACGGGACAG CTGCTGGGCT CTGTTCACAG AGGCCACTCC
129651 GGCAGACCTC CACTACCACA ACTTGTAGTG TAAATCCACT ACAACTTTCT
129701 GAGCTACAGA AATGAAATGG AGACCCTCTC TGCTATGGGA TACAAAAGAG
129751 GAAACGTGGC GTTTAGCTCT GGCTCACTGG TACACCCAAC CACAGGGTGA
129801 GAAGCAGCCT GTTGTTATTC ACTACTCTTA GGACAGATTA TGGTGAATTG
129851 TTAATAAAAG CATTTCTTCA TAACATCCAA AGGAGGAAAT ACACTAAATT
129901 ATATTTTTTA TTAATTAATT ACACATGCTT AATTATATAT GGCATGGTTG
129951 CTTTGGAAGA ATCTTGTCCT TACTGACCAG ATCTGCTGTT TGCTGAGACA
130001 AAATGGCTGA CAATTTTGGC CATGGTGGAT ACCTTCCCCC TTTTCTGTAG
130051 CATTAGGACA GAAGTTATTC TGGAGCCTGT CTGACAAGTT AGACTTGATA
130101 CCTTTAAGTA TTTGGAAGTG TGCTTTTCAT GCTGGATGTC ATCTCCAGAA
130151 CCTCCCTGTC TGGTAAGCAG TTCCCTGCCT TAGTAAGAGC CGAAACGGTC
130201 TCTCTTTTCC TTGTTATCTC ACCAGGATAT TACAATGTGA CAGGACTATC
130251 TGAACTATGC CAACCTGCAA ATTCCAAATA TATATATATA TATAAGATAT
130301 CTATACACAA ATTATTAGTG TTTGATTGAC ACCAGATGAC AGAGAAGTGC
130351 ATCTGAGAAA ACCTATTCCC AATCTCCTTT CTCTTTCTGC AGACTGACAT
130401 GCATTTCATA GGTAGAGATA ACATTTACTG GGAAGCACAT CTATCATCAC
130451 AAAAAGCAGG CAAGATTTTC AGACTTTCTT AGTGGCTGAA ATAGAAGCAA
130501 AAGACGTGAT TAAAAACAAA ATGAAACAAA AAAAATCAGT TGATACCTGT
130551 GGTGTAGACA TCCAGCAAAA AAATATTATT TGCACTACCA TCTTGTCTTA
130601 AGTCCTCAGA CTTGGCAAGG AGAATGTAGA TTTCCACAGT ATATATGTTT
130651 TCACAAAAGG AAGGAGAGAA ACAAAGAAA ATGGCACTGA CTAAACTTCA
130701 GCTAGTGGTA TAGGAAAGTA ATTCTGCTTA ACAGAGATTG CAGTGATCTC
130751 TATGTATGTC CTGAAGAATT ATGTTGTACT TTTTTCCCCC ATTTTTAAAT
130801 CAAACAGTGC TTTACAGAGG TCAGAATGGT TTCTTTACTG TTTGTCAATT
130851 CTATTATTTC AATACAGAAC AATAGCTTCT ATAACTGAAA TATATTTGCT
```

Fig. 1-50

```
 130901 ATTGTATATT ATGATTGTCC CTCGAACCAT GAACACTCCT CCAGCTGAAT
 130951 TTCACAATTC CTCTGTCATC TGCCAGGCCA TTAAGTTATT CATGGAAGAT
 131001 CTTTGAGGAA CACTGCAAGT TCATATCATA AACACATTTG AAATTGAGTA
 131051 TTGTTTTGCA TTGTATGGAG CTATGTTTTG CTGTATCCTC AGAATAAAAG
 131101 TTTGTTATAA AGCATTCACA CCCATAAAAA GATAGATTTA AATATTCCAA
 131151 CTATAGGAAA GAAAGTGTGT CTGCTCTTCA CTCTAGTCTC AGTTGGCTCC
 131201 TTCACATGCA CGCTTCTTTA TTTCTCCTAT TTTGTCAAGA AAATAATAGG
 131251 TCAAGTCTTG TTCTCATTTA TGTCCTGTCT AGCGTGGCTC AGATGCACAT
 131301 TGTACATACA AGAAGGATCA AATGAAACAG ACTTCTGGTC TGTTACTACA
 131351 ACCATAGTAA TAAGCACACT AACTAATAAT TGCTAATTAT GTTTTCCATC
                                        NRE: A,B,C regions
 131401 TCCAAGGTTC CCACATTTTT CTGTTTTCTT AAAGATCCCA TTATCTGGTT
             silencer (common site)
 131451 GTAACTGAAG CTCAATGGAA CATGAGCAAT ATTTCCCAGT CTTCTCTCCC
 131501 ATCCAACAGT CCTGATGGAT TAGCAGAACA GGCAGAAAAC ACATTGTTAC
 131551 CCAGAATTAA AAACTAATAT TTGCTCTCCA TTCAATCCAA AATGGACCTA
 131601 TTGAAACTAA AATCTAACCC AATCCCATTA AATGATTTCT ATGGTGTCAA
 131651 AGGTCAAACT TCTGAAGGGA ACCTGTGGGT GGGTCACAAT TCAGACTATA
                                        Ovalbumin exon L
 131701 TATTCCCCAG GGCTCAGCCA GTGTCTGTAC ATACAGCTAG AAAGCTGTAT
 131751 TGCCTTTAGC AGTCAAGCTC GAAAGGTAAG CAACTCTCTG GAATTACCTT
 131801 CTCTCTATAT TAGCTCTTAC TTGCACCTAA ACTTTAAAAA ATTAACAATT
 131851 ATTGTGCTAT GTGTTGTATC TTTAAGGGTG AAGTACCTGC GTGATACCCC
 131901 CTATAAAAAC TTCTCACCTG TGTATGCATT CTGCACTATT TTATTATGTG
 131951 TAAAAGCTTT GTGTTTGTTT TCAGGAGGCT TATTCTTTGT GCTTAAAATA
 132001 TGTTTTTAAT TTCAGAACAT CTTATCCTGT CGTTCACTAT CTGATATGCT
 132051 TTGCAGTTTG CTTGATTAAC TTCTAGCCCT ACAGAGTGCA CAGAGAGCAA
 132101 AATCATGGTG TTCAGTGAAT TCTGGGGAGT TATTTTAATG TGAAAATTCT
 132151 CTAGAAGTTT AATTCCTGCA AAGTGCAGCT GCTGATCACT ACACAAGATA
 132201 AAAATGTGGG GGGTGCATAA ACGTATATTC TTACAATAAT AGATACATGT
 132251 GAACTTATAT ACAGAAAAGA AAATGAGAAA AATGTGTGTG TGTATACTCA
 132301 CACACGTGGT CAGTAAAAAC TTTTGAGGGG TTTAATACAG AAAATCCAAT
 132351 CCTGAGGCCC CAGCACTCAG TACGCATATA AAGGGCTGGG CTCTGAAGGA
 132401 CTTCTGACTT TCACAGATTA TATAAATCTC AGGAAAGCAA CTAGATTCAT
 132451 GCTGGCTCCA AAAGCTGTGC TTTATATAAG CACACTGGCT ATACAATAGT
 132501 TGTACAGTTC AGCTCTTTAT AATAGAAACA GACAGAACAA GTATAAATCT
 132551 TCTATTGGTC TATGTCATGA ACAAGAATTC ATTCAGTGGC TCTGTTTTAT
 132601 AGTAAACATT GCTATTTTAT CATGTCTGCA TTTCTCTTCT GTCTGAATGT
 132651 CACCACTAAA ATTTAACTCC ACAGAAAGTT TATACTACAG TACACATGCA
 132701 TATCTTTGAG CAAAGCAAAC CATACCTGAA AGTGCAATAG AGCAGAATAT
 132751 GAATTACATG CGTGTCTTTC TCCTAGACTA CATGACCCCA TATAAATTAC
 132801 ATTCCTTATC TATTCTGCCA TCACCAAAAC AAAGGTAAAA ATACTTTTGA
 132851 AGATCTACTC ATAGCAAGTA GTGTGCAACA AACAGATATT TCTCTACATT
 132901 TATTTTTAGG GAATAAAAAT AAGAAATAAA ATAGTCAGCA AGCCTCTGCT
 132951 TTCTCATATA TCTGTCCAAA CCTAAAGTTT ACTGAAATTT GCTCTTTGAA
 133001 TTTCCAGTTT TGCAAGCCTA TCAGATTGTG TTTTAATCAG AGGTACTGAA
 133051 AAGTATCAAT GAATTCTAGC TTTCACTGAA CAAAAATATG TAGAGGCAAC
 133101 TGGCTTCTGG GACAGTTTGC TACCCAAAAG ACAACTGAAT GCAAATACAT
 133151 AAATAGATTT ATGAATATGG TTTTGAACAT GCACATGAGA GGTGGATATA
 133201 GCAACAGACA CATTACCACA GAATTACTTT AAAACTACTT GTTAACATTT
 133251 AATTGCCTAA AAACTGCTCG TAATTTACTG TTGTAGCCTA CCATAGAGTA
 133301 CCCTGCATGG TACTATGTAC AGCATTCCAT CCTTACATTT TCACTGTTCT
                                        Ovalbumin exon 1
 133351 GCTGTTTGCT CTAGACAACT CAGAGTTCAC CATGGCTCC ATCGGTGCAG
```

Fig. 1-51

```
· 133401 CAAGCATGGA ATTTTGTTTT GATGTATTCA AGGAGCTCAA AGTCCACCAT
  133451 GCCAATGAGA ACATCTTCTA CTGCCCCATT GCCATCATGT CAGCTCTAGC
  133501 CATGGTATAC CTGGGTGCAA AAGACAGCAC CAGGACACAA ATAAATAAGG
  133551 TGAGCCTACA GTTAAAGATT AAAACCTTTG CCCTGCTCAA TGGAGCCACA
  133601 GCACTTAATT GTATGATAAT GTCCCTTGGA AACTGCATAG CTCAGAGGCT
  133651 GAAAATCTGA AACCAGAGTT ATCTAAAAGT GTGGCCACCT CCAACTCCCA
  133701 GAGTGTTACC CAAATGCACT AGCTAGAAAT CTTGAAACTG GATTGCATAA
  133751 CTTCTTTTTG TCATAACCAT TATTTCAGCT ACTATTATTT TCAATTACAG
                        Ovalbumin exon 2
  133801 GTTGTTCACT TTGATAAACT TCCAGGATTC GGAGACAGTA TTGAAGCTCA
  133851 GGTACAGAAA TAATTTCACC TCCTTCTCTA TGTCCCTTTC CTCTGAGAAG
  133901 CAAAATACAG CAGATGAAGC AATCTCTTAA CTGTTCCAAG CCCTCTCTGA
  133951 TGAGCAGCTA GTGCTCTGCA TCCAGCAGTT GGGAGAACAC TGTTCATAAG
  134001 AACAGAGAAA AAGAAGGAAG TAACAGGGGA TTCAGAACAA ACAGAAGATA
  134051 AAACTCAGGA CAAAAATACC GTGTGAATGA GGAAACTTGT GGATATTTGT
  134101 ACGCTTAAGC AAGACAGCTA GATGATTCTG GATAAATGGG TCTGGTTGGA
  134151 AAAGAAGGAA AGCCTGGCTG ATCTGCTGGA GCTAGATTAT TGCAGCAGGT
  134201 AGGCAGGAGT TCCCTAGAGA AAAGTATGAG GGAATTACAG AAGAAAAACA
  134251 GCACAAAATT GTAAATATTG GAAAAGGACC ACATCAGTGT AGTTACTAGC
  134301 AGTAAGACAG ACAGGATGAA AAATAGTTTT GTAAACAGAA GTATCTAACT
  134351 ACTTTACTCT GTTCATACAC TACGTAAAAC CTACTAAGTA ATAAAACTAG
                                    Ovalbumin exon 3
  134401 AATAACAACA TCTTTCTTTC TCTTTGTATT CAGTGTGGCA CATCTGTAAA
  134451 CGTTCACTCT TCACTTAGAG ACATCCTCAA CCAAATCACC AAACCAAATG
  134501 ATGTTTATTC GTTCAGCCTT GCCAGTAGAC TTTATGCTGA AGAGAGATAC
  134551 CCAATCCTGC CAGTAAGTTG CTCTAAAATC TGATCTGAGT GTATTTCCAT
  134601 GCCAAAGCTC TACCATTCTG TAATGCAAAA ACAGTCAGAG TTCCACATGT
  134651 TTCACTAAGA AAATTTCTTT TTCTCTTGTT TTTACAAATG AAAGAGAGGA
  134701 CAAATAACAT TTCTCTATCA CCGACCTGAA ACTCTACAGT CTTCAGAGAA
  134751 TGAATGGCTT GCTAAAGAA TGTCAAATCT TACTATACAG CTATTTCATA
  134801 TTACACTACT AAATACACTA TAAGGCATAG CATGTAGTAA TACAGTGTAA
  134851 AATAGCTTTT TACACTACTA TATTATTAAT ATCTGTTAAT TCCAGTCTTG
  134901 CATTTCACAT TTGCAAAACG TTTTGAAATT CGTATCTGAA AGCTGAATAC
                                    Ovalbumin exon 4
  134951 TCTTGCTTTA CAGGAATACT TGCAGTGTGT GAAGGAACTG TATAGAGGAG
  135001 GCTTGGAACC TATCAACTTT CAAACAGCTG CAGATCAAGC CAGAGAGCTC
  135051 ATCAATTCCT GGGTAGAAAG TCAGACAAAT GGTAAGGTAG AACATGCTTT
  135101 GTACATAGTG AGAGTTGGTT CACCCTAATA CTGAGAACCT GGATATAGCT
  135151 CAGCCAGCGT GCTTTGCGTT CAAGCTTACC AGAGCTGTTG TATGCCTGTT
  135201 AAGCAGGGCA TACAGTCATG AGGCTCTTGA AAAATCTTAA CAGACAAAGG
  135251 GCAATGGAAA ATCGGAGTTA AGGGATGGTA GGGATAAAAT GCATAGAAAG
  135301 AGGTACCACA ATTTTGATTT TTGCCCTAAT GCCTCTCTGC GTGGTTCCTC
  135351 AATTTTTCTA CTTCATTCCT CATCTCCTCA GAGCATTCCT TTCCCTCATG
  135401 CTTGAAACAC AGATGAAAGA CTGTGAATTC TAACTGAGAT GAAAACATCC
  135451 ACAACCACAC AACCTCTGGT GTGGAGTCAC ATTCTGTGAA GGCAAAAACT
  135501 AGGCCACGTA ATCTATGTGT GCAAGCTACG TGTAAGCTAT GTGTGTGACA
  135551 GGACAATGTG AGGAACATAC TATGTGCACA AGGACTGCAG AATAAACAGG
  135601 AGCAAAGTTT TTGAAGAAAA CAGAGTAAAA TCCTGTTTTC CTCTTTTGTT
  135651 ACATTCTTTA CATATATCTC AAATTTCCTC TTTGGTTAGA AGCAAGTAAT
  135701 ATTTATGTTT CTTGGTACTG TTTGGGTTGA AGACCATTCT GGGATAAGAG
  135751 AAATTCCAGT GGTTCTTCCC CTAATCATAA AATGTACAGG TTTAGTTTTT
  135801 TTGTAACACA GAAATCTCTT CATCTTTTAT CTTTTGTTGT GATTCTTTAT
  135851 AGAGAGAGAA ACAAGACTTA CTGACAATAG CAGCAAGAAA ATCAATCTTG
  135901 GAAGAACAAG ATTGCAGTTG CAAAAACAAA CCAATGTCCT TGCCCCTACA
```

Fig. 1-52

```
.135951 TCCTCTTCCC CATAAATTCT ACATTCTCTA TCTACCTTGT GCTTGCCAAC
 136001 ATGATATACG TAAACTCTCT TTTCGTATTC ATTCTTAAAG GAATTATCAG
                         Ovalbumin exon 5
 136051 AAATGTCCTT CAGCCAAGCT CCGTGGATTC TCAAACTGCA ATGGTTCTGG
 136101 TTAATGCCAT TGTCTTCAAA GGACTGTGGG AGAAAGCATT TAAGGATGAA
 136151 GACACACAAG CAATGCCTTT CAGAGTGACT GAGGTATATG GGCATACCTT
 136201 AGAGATGTAA TCTAGAATTT ATGAAGAGAG TAGACATGTT GTTATATGAA
 136251 CACTGCATTA GCGTATCTGC TCATTTGTCT GCATCTCTTT CAGACACTGT
 136301 GTTAAAAGCA GGGAATTTTC CTTATGTCTC TCTCATCACA ATATTCCTGA
 136351 CATTGCAAAG CTCCTGAGAA ATAACTTCAG ATTCCCACTT TTCCTAGGAA
 136401 GGTCTTCCTG GATGAGAACA ATCAATCATC TTAACTGTAA CTAGATATTT
 136451 CTGCATCTAA GAATAATCTT TGTTAAAACT ATATTCTCTC TCTCTTTTTT
                         Ovalbumin exon 6
 136501 TTTTTTTTTT GGTTCTCCAG CAAGAAAGCA AACCTGTGCA GATGATGTAC
 136551 CAGATTGGTT TATTTAGAGT GGCATCAATG GCTTCTGAGA AAATGAAGAT
 136601 CCTGGAGCTT CCATTTGCCA GTGGGACAAT GAGCATGTTG GTGCTGTTGC
 136651 CTGATGAAGT CTCAGGCCTT GAGCAGGTAT GGCCCTAGAA GTTGGCTTCA
 136701 GAATATTAAA AACACATGGA AATTTAGCTG TTGTAAAGCT CTTTTCAACA
 136751 CAGTTATCCT AAAACATTTA ACCAGCACAA ATTTCATCAT GATTCAATAT
 136801 GTGATTGTTG CATAGAAGTG TAGATTTGTC CCACTGGGTC CTGCAATAGC
 136851 CCATGCTGAG CATGGCTTGC TGAAAGAACT GCTTTAGAGG GTGAAAAGTT
 136901 TGACACAGCA GACAAGATGA TTCTCACCTA AGCAGCTGTT ACTGTAGTGG
 136951 CTTGAACTCT AAAGGTCTTG TATCTCCATT CCTGTGCACT GAGGAGCTTC
 137001 TTGGAAAGTT CATATAAGGT TTACTAGTTC TAACTATTAT CTCATTTGGT
 137051 GGCACTCAAT GTGCTTTGTT CACGTCTTCA TAAATTAATC TATCTAAAAA
 137101 TTGGATGTGG TTAAAGCAAT TTCAGAAATA ACATGTACAT AATGTACAAT
 137151 TATTGATATG AACAGAACAC AGGCATAGCA TATTGTAATT AGGAGGACTG
 137201 TAGTTATTTT GAATAGGAAA CACAATGTAA TAAATGAGAA TTCATTGAAA
 137251 TGTTAGTATG CTAACTCAAT CTAAATTATA AAGATAAAGA GGCATTTAAT
 137301 CACAGCTAGA TTTCCATCAC TTGTGACAGA CAGGCATATG AATGATTATG
 137351 TACAGCTCTA GGAAAAAAAG TATGTAGGAA AACTAGTACA TTTTGATTAG
 137401 AAAGTCTGAA AATGAGGTGC CTTGATCAAA GAGAATACGT GTGTTTGAGA
 137451 AAAAAAAAGT TTGGATAGAG GTGGTAAGAG AGAATATATT GAAATGGTGT
 137501 TTCTACAAAC TGCCATGGCC AGATTTGTGT AAGAGACATT CAGTAAGTAG
 137551 GCAAGGAAAG AAATATTACT AGGTACAAAG CAACATTAGT AATACCAAAA
 137601 GAAACCAATT ATTCCAGATG CCAATCTCGT AATAGGGTTA AGAGATTTCC
 137651 ACCCCTCTAG TAGTCACCAG TGCAACCAGT AACTTTGCTA ATTTACATTT
 137701 TCTTTTTTTA AATGGCAGAT ATAGCTTTGA ACTGAGTGAT CATGAACTGG
 137751 TACTGTGTAA ATAAGATGGA AGCATACTTG GGAGCTAAAC TTCTAGTTTT
 137801 TAAAAACTCA AATTCTCTTG AAAGATCAGT TCCCAGTCTA GTAACAGCTG
 137851 ATAGTTTAAG TATCAGTAAT TGGCTACCAT TAACAACTGG CTCCTGAGAG
 137901 GTCTTAAATG TAGAGACAGC TTTAAACTCA AAAGCACAGA GTGATTTTTA
 137951 GAATAGATTT CCCAAGCAAA GAAAATAAAC AGGGAGGAGC TTTAAGGGAG
 138001 TAGCCATCTC ATTATTATTA TTATTTAAAG AAATGGCAGC AAGGCTATAA
 138051 AAGAAAAATA AGACAGAGCA GAGAAGAAAG AGTCATGGTA TGCTTTTCTA
 138101 TCTTAGCAAA ATTAATCTCT ACATGCCTAG GAAAAAGCCA TGACAAGAGC
 138151 AATCAGTTCA AAAGGTGTAT GCAAAAAAAC ACATAATAGT AACTAGTACT
 138201 GCATTGCCAG GAAGGAAGTT ATGTCGCCAT CCATGGATC TCATTCTCAT
                         Ovalbumin exon 7
 138251 TTCCTTGCAG CTTGAGAGTA TAATCAACTT TGAAAAACTG ACTGAATGGA
 138301 CCAGTTCTAA TGTTATGGAA GAGAGGAAGA TCAAAGTGTA CTTACCTCGC
 138351 ATGAAGATGG AGGAAAAATA CAACCTCACA TCTGTCTTAA TGGCTATGGG
 138401 CATTACTGAC GTGTTTAGCT CTTCAGCCAA TCTGTCTGGC ATCTCCTCAG
 138451 CAGAGAGCCT GAAGATATCT CAAGCTGTCC ATGCAGCACA TGCAGAAATC
```

Fig. 1-53

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138501 AATGAAGCAG GCAGAGAGGT GGTAGGGTCA GCAGAGGCTG GAGTGGATGC
138551 TGCAAGCGTC TCTGAAGAAT TTAGGGCTGA CCATCCATTC CTCTTCTGTA
138601 TCAAGCACAT CGCAACCAAC GCCGTTCTCT TCTTTGGCAG ATGTGTTTCC
138651 CCTTAAAAAG AAGAAAGCTG AAAAACTCTG TCCCTTCCAA CAAGACCCAG
138701 AGCACTGTAG TATCAGGGGT AAAATGAAAA GTATGTTATC TGCTGCATCC
138751 AGACTTCATA AAAGCTGGAG CTTAATCTAG AAAAAAAATC AGAAAGAAAT
138801 TACACTGTGA GAACAGGTGC AATTCACTTT TCCTTTACAC AGAGTAATAC
138851 TGGTAACTCA TGGATGAAGG CTTAAGGGAA TGAAATTGGA CTCACAGTAC
138901 TGAGTCATCA CACTGAAAAA TGCAACCTGA TACATCAGCA GAAGGTTTAT
138951 GGGGGAAAAA TGCAGCCTTC CAATTAAGCC AGATATCTGT ATGACCAAGC
139001 TGCTCCAGAA TTAGTCACTC AAAATCTCTC AGATTAAATT ATCAACTGTC
139051 ACCAACCATT CCTATGCTGA CAAGGCAATT GCTTGTTCTC TGTGTTCCTG
139101 ATACTACAAG GCTCTTCCTG ACTTCCTAAA GATGCATTAT AAAAATCTTA
139151 TAATTCACAT TTCTCCCTAA ACTTTGACTC AATCATGGTA TGTTGGCAAA
139201 TATGGTATAT TACTATTCAA ATTGTTTTCC TTGTACCCAT ATGTAATGGG
139251 TCTTGTGAAT GTGCTCTTTT GTTCCTTTAA TCATAATAAA AACATGTTTA
139301 AGCAAACACT TTTCACTTGT AGTATTTGAA GTACAGCAAG GTTGTGTAGC
139351 AGGGAAAGAA TGACATGCAG AGGAATAAGT ATGGACACAC AGGCTAGCAG
139401 CGACTGTAGA ACAAGTACTA ATGGGTGAGA AGTTGAACAA GAGTCCCCTA
139451 CAGCAACTTA ATCTAATAAG CTAGTGGTCT ACATCAGCTA AAAGAGCATA
139501 GTGAGGGATG AAATTGGTTC TCCTTTCTAA GCATCACCTG GGACAACTCA
139551 TCTGGAGCAG TGTGTCCAAT CTGCCGCTGC CCTGATCCTG GCTGGGGTGA
139601 TGGGACAGAC CTTGGCTGCC ACTGAGACAT CTGAGACACT GAGATCTGTC
139651 TCAACTCAGA TTTACCCAAG AACAGATCAT TGCCAACAGA ACAAAATCTC
139701 AAACTTATGG CTAGTGATGA CAGCAGTCAG TTGTCCCATC TGTGACCCAC
139751 CAAGGCTGGC ATGCTGGAAT GAGCAGGCTT TGGTGGCTTG TAGTTACTGG
139801 ACAGCACCAC TGACATGGGC AGGGGAAAAA CTGAGCATGG TGTAAATCAC
139851 TGCCTCAAAG CCACTTCTCT GTGCCTGCAC CATGCTTGAA AGCTCTTCTA
139901 CAGGAGCTGG GTTTGTTCAA GAAAGCTTCT GTTTCTCCCA TCTGCTTCTT
139951 GTACCTTCAC AGGGACAGAG TTAGAAGGGT ACAGCCATGG CTGGAAGGGG
140001 CTGACTTTCA AATGTGCCTA ATTTTCCTTT GGTTGCTGCT GCAGCTGCAG
140051 AAGAAGGGGT TCAGAAGCCA AGAGCTTTGA GATAAGGATG CCTAACCTAT
140101 GTTGAAGACA TTTGTGCTGA CACCTCAGGC CCCAGGATAG GACAACTGCT
140151 GGATTGTGGC TAACCCACTA GCTACAGAAC CTAATTTATA TTACCAGATT
140201 AGGAAGAGCA AAAGAACATG TATTTATAAC AGGAGGTCTT CTGTGCTTCT
140251 CTACTAAAAG GTGCTGTGAA GGAGCCCACA GTGCAGCAGT GTATGAGGCC
140301 TGAAAGAGGC CGCAGCACAC GAAGAGCCCT GGTAGGAGCA GCACACAGAG
140351 GGGCAGGAGG GCTGGGGGAA CTGCCACCCA TGGGGACCTG TGTGAAGCAG
140401 TGCACTCCTG AGGGGTGGAC TGCGTGGGAA AGGAAAGAA AGCAAACAGA
140451 CCTGTGATGA ACTGTCACAC AGACTGCAGA GTGACAGAGG AGGGCTTGAG
140501 GCAGTGCGCT TACTGCAGGG AGTGGCGCTC CTTCCTCACA GCAGCGCTAA
140551 CAGCTTGGCA CCAATATTCA GTAGTCTGTG GTGATGCTTT TTCCAGTTTC
140601 ACCACACAGC ATTTCGCTTG TTCTACTTGT TTTAGCTTTC CCCCTCCACA
140651 AGATAACACA TACTTTGCCA GTCAGTCCCT AAGACCTTAG CCTAACAGTT
140701 AGCAAACAGG ATCTTGCAAA AGAAGGAAGA TAACATGACA CCACCTTCAC
140751 TGGTGTATAA ATAGTTCAAA TACTTTCCTT CACTTTCCCG TAAATTAGTT
140801 GATTGCAGGT CAGGAGATAA CAGGGGAACT TACTGCAAGA GAGAAAATGA
140851 TGTTTAATAT TGTCTTGGAC TTTCTGGTGG TCTGGGCATG AAAATGGAGT
140901 ACTCAAAATC CTCAGGACGT TTATTTTTCA CCTGATTTAT TCCCAAACTG
140951 CACTATTTCT AGGCCATTGG AGTTCTTATC AATTAAATTA TACTTTGGCT
141001 CTCTGCTATC TCACTCCCTT TCATCTTCAG CATCACTTTC AGCACAATTA
141051 CAGGAGAAGA CTTAGACTCA GAGCTTTAGG ACTCATCATA AGAGGCTTTC
141101 ATTGCTCTGT CACCACACCC CATATAGATC TGTAGTATAC CACACATGTG
141151 AAGAAGCACA GTACATTAGT GCATTACAGA GAGACAAAAC CACACCTATT
```

Fig. 1-54

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141201 TGTGTGCCTG CAGTCTTACA CCAGCAGGAA GATAATTAAC GTAATGAATT
141251 TCTATAAAAA TGAGAGAATA TGGCCCCTGG GTCCTACTGC TTGTTCTAGT
141301 CCTGATTCTT CAAACGTAAG AATGCAAGTA AAATTACTCA CTTGAACAAA
141351 GTCAGCAATT TGCAAGAACT GATATTCTGA AGTTCAAGTA ATTAGAGTGA
141401 TTTCCAGTAC TTCTGGCTGG AACGGGCAGC TGAAAATCAC CTGGTCCAGC
141451 ACCTTGCTCA AAGCAGGACT ATCTTCAAAG CCATATCAGA TAGCTCCAGA
141501 CCTTCCCTAG TCAAGTGTTG CCTATCTGCA TGGTTGGAGA ACCCACAGCC
141551 TTCTGATTAA TTTGATTTTA AACATAAATT CAAATGTCAC TAGCGTAGCA
141601 GTAGTGAAAG CCATTCAACT GGCTTTACTT TCTCTTACCA AATGAGAGTT
141651 AGCTGCAGGT GAAAATAAGC CCTGCCAGTT CTCATTTTTT CTCCCACAGC
141701 CCACAAAGCT CTCACTGTCT GTCCTCACTT GTAATACTTT TGAACCAACA
141751 TCTACAGATT ATCTCTGTAA ATCCCAAGCA GTACCTAGTC ACCACGTGAA
141801 CAACAAATTC CTACATTTAA CAATATTTAA GAGCAAAGGC CAGACCATAT
141851 GTAGCTGCAC ACTACACATT TTTAGACCCA ATAGTATAAT TTATACTTTG
141901 ACTCCATGTT GCTGCCATGT GGATAACAAT GCGCAATCAT TTGTACCTGG
141951 CTTCCTTTTC TAACTAGTAT ACTCTTAAAC GTCACAAGAT AAAGACTCTA
142001 GTTCTGTATA GTCTAGCTGA CTTGTGACAA GAGCAAACAC TCACAATTTC
142051 ATGGTACTCC TGAGGAAAAA AAGGATCCCA AACTAATTTT GAGCTTTTAC
142101 ATATTTTTTT TTAACCTACA GAGCACCTTG CTACTTCTGC TGAATGTTAG
142151 CAATAGCAAC CCACAGTCTG AAATCAATGC AATGAACTTC TACTATGGGT
142201 ACCATACTGA TGACAGGAAT AGTGCAAGTC CTTACACTGG AAGGCTGACT
142251 CCTTAGTCAC ATAGGTAAAA TTTAGAAATT GCAGCTCTGA TAAGAGATCA
142301 GTATGGGAAA GGGAAAATAA TGGGGTGCCA GATGAGTGCA CCTTCCTGAA
142351 AGGAAGGCAG ATATATGGGA ATTAAAGGTG GACAAGGGAT GCTGTGGAGG
142401 TACCATCAAC TTTCACAGGG CTGTATGTAA AAGCAGCTCT CTTTCCTGTT
142451 GATTCTCCGC TGCCTCATTT CTTCTGGGCA AAGTTTGTTA CTCTCCAGTA
142501 ACGTCCCTTC CTCAAACTGT TACCTAATCC CACCCTCATT GCCTTCTCTG
142551 TTTTGCTCTG TCCTTCAGCA GTCTCTACCT GCTTCTTAAG GTAGTGAAGT
142601 AAGAGGGCAG TTCTGGAGTC AAGCTCTGTT TCTATGAGGG TAAAGGCCAG
142651 GGAGAGAAAG GTTTGGGAGT GTGAGGAGAG CCTTTTTCCT GTGTTGTTCA
142701 AGTACTTAGT CCAAGCTGCT TTCAGCTGCA TCTGCAGAAG ATGGGGAATG
142751 GAGGGTGATC AATGCCATTC CTCCAGCCAC AGAGCAAGGG CTTTGCCTCT
142801 CCTTGCATAC AGTATACTAG CTTTCCTTAG TCAAATGTTT CCTCTGTGCT
142851 GCAGAGTCCA AGGTAAAGAG GCTTTGTCTA CAGCTAGGTC TATGTTCCTA
142901 GAGAAACAAT TAGCAACTGC AAAATCAAGA GGTACTAAGA AAGCCTCTGA
142951 AGCTATACCC AGGGGTCTGG CAAATGAAGG GGGACAGATC AAGAAGAAAG
143001 AAGAGTCTAG AGCAGTTTAA GGGAATAATG CCACTAGTTT TAAGCCACAC
143051 ATCTGGTGGT AAGCTTTTAA CTTTGAAAGA GACAGAAATC TCAAGATACA
143101 CCAGCCCAAA ATATAATGGA GCCATAAAGG TCTGCACGTA GCTGAATCCC
143151 AACTGGAAAG AACAGCTTCA AAGAGCTTGG AAGTGCTGAG GTGAAGAAGA
143201 GCATGTGATC ATTAGATTTC AAAAGAAGGT CCTCAGCACA ATAACCAGAA
143251 AGTTCACCTT TCTGTGGGAC AAAAGATGCG TCCCTCACAA AGGCTGGGGG
143301 AACAAAATCT TTGCATCTCA TTTTGCCTGA GAGGAGAAGG AAATACAAGA
143351 TCATCTTGTT TTACTTGGTG TGTATCACAT CATTAATTTC TATTTGGTCA
143401 CTACTATGCA GAACTTGCTA ACTTGAACCA TGTAAAAAGC ACACTAGGTC
143451 TCAAGAGACT AAAAATGCTTC TTGCAACAGG CAGAGTGTGA GAGATGGAAG
143501 GATGGAAAAA TCTTGCAGTG ATGAAGGCAC TGATAAGAGA TGTTGAAATG
143551 ATACTAACAA ATGGCACTCT ATCTTTCCCA AGATCTTTGT CAGCATGAAG
143601 GGAAAATTCT ATTCCAAGCT CTCTTTGAGG GGTTACCATG TTCCAGGATA
143651 AAGACTTGCT GCATACACAA GCGCACTTAG TCAGGTCACT CAGATCAGTC
143701 TCATGCTAAA AAGTGTGAAA ATAGAAATAC AAATAAGGGG CCAAGCAGAT
143751 TACTGAACAG CAAAGATTGC CAGTACGTGT CCACAATGAG TATTTGGACA
143801 TTTCACTGCC GAAACTTCTG AAAATATCAA CTGCCTTATG AAACTCTGGT
143851 TATTCCACCG CACAGGAGTA TTTGTGGTTG AGCTGCATGA AGAAATAGCA
```

Fig. 1-55

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 143901 AGTGTTTAAA CTGATTTCTT AAAAGAGAGC CTTTCCTCTA CATGCTGCTC
 143951 TTGCACATCC ATGCGTGGCT CCTCTTCAGG AGCAGGAATT GGTTTTCTGA
 144001 TTCAGCAGTT GTGTAGCTGA CGTAGTTATA CCCTTTGAGA GATTTCTTCA
 144051 GAAAAATGAC ATGTTTAGGC TAAAGTGCAT GTAATCCACA CATACACCAT
 144101 TACTCACAAT GAAGTACTAT GCAGCATGAA ATTCAGGCTA TTCTTCTTCA
 144151 TATTTTTGGT TTTAATTGCT ACCTTGGTTA CTTAAAAAAT GCTCACCATC
 144201 TGATTCATGC AAAGGAAAAC TGCACACTGG TAGATGTGAG AACAGCACGC
 144251 ATACTCACTT CCAGATAAAC TAATCTCTAC TCAGATATCG AGATCATTGC
 144301 TTCTCCAGAA GTGTTGCACT GGTCATCAGA ACTGAGTATC TCAGGAAAAG
 144351 CACTGTCTTT TCTAATTACG GCATCTAAGC TAAAGCACAC AGCGGTAATA
 144401 GTGCAGTATG ACAAATTATG CCAGTGTTCA ATTCATGTGC CAAATCTCAC
 144451 CACGCCTTTG CGTTCTGCAG GTGTGGAGCA AAATGCCTCA GTGATATTTA
 144501 GACAGGAACA CCACCACACC TCTTAACAAC TCATAAATTC TAAATGCTAT
 144551 TGGAGTATGT CAGCAAAGAT TGCTTGGCAA AGGTTGCAAA TGTACATGTA
 144601 ATATGTACGC TTTAGATAGC TATCTACACT GTTTCAAAAT AAAGACGCGT
                              MAR
 144651 GTGTTCTCAC TCAAAGCTTT AAAGGGAAAT AAGATACTCA AAGAAATAAT
 144701 CTCTTTTGAA CTTTAAAAGC TATTTGAGAC TTCACGATGA TACAAACTTA
 144751 TCCCACATAA AAATCTTAGG ACATAAAATC CATTACAACC ATTCCAGCTG
 144801 AGACATATAC ACCATTGTTA CGCTTTAATT TACAAGGTCA GGACAAGCTC
 144851 TTGCTGCATT CTGTGACAAA AGGGCTCCTT TGCACACCAA AATCCATGCA
 144901 CCCACTCCAA GCACCTGATC ACTGATCACC ATTACCATCA CTTCAGTCTC
 144951 CGTGCTCCCA TTCCCCATAC TGTTTTGGCT CTTGCCAATT ACAGGATTGT
 145001 TATGAAACTA AATGTTAAGC TGCCCTCCCA CAGGATTCCA ACATTCTCAG
 145051 GTTCAAAAC CATTGTCTTC CCCACCCCTC TTATCTCCTG AAGTCCTTAT
 145101 AATGGTTTGG ACATTTAAAG TCCTTTCATG TTTAAAACTT ACTGGCCTGC
 145151 TCTGGCTGAG ACAAAAACAC GAGCAGAATG CTCTGTTGGC TGAACCAGAA
 145201 ACCATTCCCC CCCAGATAAA TAAACAGCAC TTTTACTGGT AAAAAAAGAT
 145251 ATTAGAAGAT GCCAAAGAAA TGGAGTAGCT TTTCTTCAAG CATAATTTTT
 145301 TTCTTTTCAA ATACCAAACA CCTTAGGTTT GAATTACATT AGATTTTCAA
 145351 GAATTACAAA GGGTTCGTAG TTAAAACAGC ATACGTACAT GAAAACCAGC
 145401 CATGGCAAGT TTCACACAAA TACTGTGTGA AAGCAGAAGC TACCAAACCT
 145451 TCCTCTCAAA ACCCTCAAGT ACATTTAGAT CACTTTATAA ATGATCTATG
 145501 TAGACAGCAA GTATTTAACC TACTCCTGAT CCCAGGTACC AATGAACTGA
 145551 GCAACATACT GTGTAGGAAA GTTGCACTGA CTTGTGCTAA GTTGCACGGA
 145601 AACTGAAGGA AAACAAAATG TGCTTATATA GCTGAGATCT GGCCAGGGTG
 145651 CCTGGTGTGC TGCCAATATT TGTCCTGCCA AAATGGAAAC ATGAATGACC
 145701 ACAGTGAATG AACTACAGGC TTACTTCCCA CAGGAAGGAT ACTACCAATA
 145751 CAAACATAAG ACTTTGAGCA TGTTGGAGTG TTGACTTAGT AGAGAGTGGG
 145801 AGTGAGGGAA CCGCTGCTCC TGAGTCAGCC TCAGCACCGC CCATTGAACT
 145851 CTGTACCTCC TAGCCTTGGT AACTTCACAG GATGCTGGAA AATATTATCA
 145901 AGTCATCACA TTGATTTATT GAATATCTTC CTTTTAGATT TTAGTTGCTT
 145951 TGTATGTATT TTTTTTTCCA CTAATAACCA GCCATGCTAT TCAAAAGGCA
 146001 TTTTTAAAAG GCAACGTTAA CACCCTGTAC AAACACCATC CTCTCATTCA
 146051 TTCAAATCCC ACATTCTGC ATATATGGAA CATGTCAGTC ACTTCTTGTA
 146101 ACAGAGCAAG TACTATGACT AGTCAGCAAA TTAAATTCAT CCCTGCTTTA
 146151 AAAACAGAAA ATCCAAGTAA CTGCTCCAAG GGATGAAGTT TATTTAGTGT
 146201 ATCTATCATT TGTTCTACAA CACAGTTAAT TTTGCAAAGA TGACTCAAAT
 146251 CATTTAAAGC TTTGGAAATC ATTTAAGGCC AATGTAAACA GATTACAACT
 146301 TTCCCAGGCG CAATGGAAGC AATTAATTCT GCAGCACACC TCTCCTACAC
 146351 TACTATACTC TGGAAAACGT AACAGATGCA TCTAATTATA ACCCACACTG
 146401 AAACATGCTG TCTTTATGTA GCTATGAATT CAAAACAGCT GAGGGGCAGG
 146451 AAAGAACCAT CCTCCTAAAG CTATGTGGCT GCTCACCTGT AGGAAAGCAA
 146501 CTTCAGCAAA GCTTTGAGTT CCCAGGTTAC ACTGATGCAG AAGCTTCACC
```

Fig. 1-56

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146551 ACTGGCAAGG TGCTCCTTGT GTGAGCAACC TATTCTGCTC TATAAAACAT
146601 TTAGCAGATA ATCCCATATC TCAGTCCTCA GTACAAGAGA CTCTGTGCCA
146651 GCCACTTCTG TACGAAATAA GCCCACACGT ACTTTCATAG ACCTCAGGGC
146701 AGAAGAAAG TTTCAGAAAG CAGTTTGTGC TGAGGAGATA GACCTTGGGG
146751 GTGAGTCTTT CTCCATATTG AGGCGGAATC CCTCAAAGAC AAGCAGCCCT
146801 TATCCAGGTG TTCAAGGTGA TATTTTCAAC AGAGCAGGGA GGTAAAGAAT
146851 GAAATAAAGG GCAGAGTTAC ATAGGATTTT TCAGTCAGAG GTGAGAGCTG
146901 AGATGGACAG GACAATGAGG TAAGGACAGT GTGACTGTGA GGAGAATTAG
146951 CGATGGAAAT GCTTCACTAG CCAAGGCAAG AAGAAAAGA GTATTCAATA
147001 GAATATCAAT TTCTGGGGAA AGAATTCATC TCTGAAGGGC TACATAGGGC
147051 AAATAGCTGC TTTCAACTTA GAACAGGGAA ACTGAGGCAG CAGCAAAAAA
147101 AAAAAAAAAA GTCTAATCTG AAACCCACAT CAGGTTCTAC TGTTGTTGCA
147151 GTGATAAGAA AAGTGTCTGA TGAGTGTTTC TCAACCTTCG TTATCTCACA
147201 GTGAAAACAT TTTCCTGGTT ATACAGTTTT AGAATCCTCC AATATTACCA
147251 AAAAATCATT TTACTAAAAA TGGAATCCCA CAAGAAATGA CTAATTTTTT
147301 ATCTGTAGGA AACGGACAAT AGAAAAACTC ATAAATATGA TGTCACTGTC
147351 CTTTCGCTGT CTCTTCCTTG GAAATTGTTT CTATTAGAGG AATCATAAGT
147401 AGGTCAGCTA CTGCATTTTT TTACCCTCCA AATTGCAAAA GAAATGTTGT
147451 TTCCAGCAGT GATGGTTCAA GTTGTAACTA GCCTGTTGCC ACAAAAATGT
147501 TTATAGAAAT ATTTCTGCAG TCAGTTTTGT AAGGTTCTTG TATGGTATCA
147551 CTCTCACCGT CACTTCACAT CCTACTCTGA GATGATTCAG TTCTTCCATA
147601 GGGATGTGGC CTTCAGGGCA AAATAAATTG CAGAGTCATG AGTCATAAGA
147651 ACCTTTGAAG AACAGGCCAG GCAGACTATA AATTCAGCCT ACCCATCATC
                                      W gene exon L
147701 TGAACTGCAT AAACCTTGGA CAGACCCAGA GCAGCAGTCT TCCTCCCTGC
147751 ACAAAACAAG GTACTGTAAT TATTTCTAGA GATTATTTAT TTCACCTACT
147801 CTTGGATGAT GTCGATCTGT TGACAAATGC ATAGAAAAAA AAGGCAGAAG
147851 GAATCTGAAT AGAAACAAT AAATACTTGA GGAAGAAATT TACTAAGATG
147901 GCACAGGCAA GGTCTAGAAG GGGTAAGTCT CAGAAATATG CAGGAAGAGT
147951 GGTTTATTCT ATGTAGTTCT CACTGGCAAA CATGTATATC ATAGCAGAGT
148001 AAGAACCATT GTGTTTGCTT AAGTTAGATC ATTTGTTCAT GTGCTCTTCA
148051 ATTCTTGTGT ACGTCAAGAC ACAGTCAGTA CATCTTTATT TTATGGCTAT
148101 TCTGTATCAA CCAGAATAGC TCCCACTACA TACCTAGGGC TCTCAGCTTC
148151 AACTGCAATG CAAATAACAA AGAGCAGCAC CTGTGTTCTA CCAATAAGGA
148201 AATTTGTCTT GCAGAACTGG GAAGCTATGA TTCGGACTAG CACCATAAGA
148251 CAGAGTTTCC AGAAATTTTT GAAAGTTAAA AATGGAATTC AGGATACTTA
148301 GCACACAGTA GTTAGAGAGC TGCTTGTCTA GTGCTTCAAT ATTTTCTTGT
148351 ATCCTAAAGG AATGGAATAT TTGTTCACTA CAGTTACGAG CTCCAAAAGG
148401 CTCTTGCACC AGTAGTCATA AGAAACAATC TCTCAGCATC TTCTAGCCCT
148451 CGCACCAGTG AGTAGCATTA TCATATGTCA CTCCAAGATG CTGTAAAGGA
148501 CAGTGCAATA AACGTCCTGA TGAACAAATA CAAAATGAAA TATGAGGCTG
148551 CTTTTTCTAT ATCACTTGAG TATGGTTAGT GTTGTTGGTG AAACGGGATG
148601 CACTATACTT AATATAACTT TTTAGTAGCT AATCTTCCTC ATTTTCCATA
148651 AAGATATCTC TCTTCTTTCC ATCTGTAAGT TCCTTACCAT ATCATTATAT
148701 TGCTTACATA GAATTCACCA TATAGTTATA AATTGCATGC TTTTTCTTTT
148751 TAGTATAACA CTGTAACCAT CCTGTTTCGA TGAATTTTCT TTTGTTTCTC
148801 CTGGCTGTCC CTTGCATGGA TATCTGTCTT TCTAAGTGAA CTTCTGCTGA
148851 ACCAAGGAGA GTTCATTCAT GCACTACAAA CAGACGTAGT TGGCAGAAAT
148901 GAATATTGTA CCAGTACTGA CAGGTCAGAA TGCTTTCATT CAGTTTCCTG
148951 AGGTCAGAGG AGAGCTGAAG AAAATACCTG GCACAGTCTA GATTTTGCCT
149001 TTGAACATAC ACTGCCAGTG AGCCTCAGTC ATACAAAGGA TCACTGTGCT
149051 GCACTGGCAT TCTTCCACAG TCAATAAGTG TTAAAAATAC TTTTAGAAAG
149101 CCTACAAATC ATAAAATAAA CTTCAAATAC TGAAAGGGAG CCTGCAGACA
149151 TATAGCAAAC ACAATTAATT CTTAGCTAAT AACATCTTTT GTCCCTTTCT
```

Fig. 1-57

W gene exon 1

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149201 GCGCAGGTTC AGAACAATGG AAGCTTTAAA TAAAGCAAAC ACAAGCTTTG
149251 CTCTTGACTT TTTCAAACAT GAGTGTCAGG AAGATGACAA CAAGAACATT
149301 TTGTTCTCCC CTCTCAGTAT TTCATCTGCC CTGGCTACTG TGTATCTGGG
149351 AGCCAAAGGC AACACTGCAG ATCAGATGGC AAAGGTGAGT CTGAGAAGAG
149401 TTGATCTACT GGAGTAACAT TCTCTATGAT AGAAATTTAG CATGATGCAT
149451 CAAAGGAAAA CCTTATGCAG GTCAAAGAT ACAGTCTACA GTAGCTTCTG
149501 TAAGCAGGCC CACACCAAAT GGGAGCAGTG GCATTAGTGA CATTGTCTCC
149551 TTTTAAATGT CATTGGAAGA AAGAAGAGCT CTTAATCCCA AAGCTCAATA
149601 ACTTGAGCAC TCACCAGTGA GAGGGAGACT CGGATTCTCC ACCTGCCTTG
149651 CTCCAGAAAA TTCTCATTTT CTGTCTCATC TCTCTGGAAA TGGCCCTATG
149701 CAGAAAGACC CTCCACTGTA TCTCTAGTAA GTTTTGTGCT TTGCTAACAT
149751 AAATCTACAA ACCCACAAGG TCAGAGAAGA AACACAGTCA GGGTGATAAT
149801 ACAACCCCTT CTTTTGAGTA CGTACTTTAC AAGAAAAATC ACCTACTGAA
149851 GTTCCTAAAC TCTGTGCAAA GTTCATAGCT TCAAAAGGCA GCAATGAGAA
149901 CAGCCCCAGT GCAAACATGG TTACCTAGCA TGTACTGCGG GAGGGGCTGA
149951 TGAACTGGCA TCTGCTAAGG CAGAAGAAGC TGCTCCACCT GCTAAGGCAG
150001 CAATCCAACT ACTGAGCTAC AGGACAAATG AGGACCAGCA GGGTCACAAA
150051 GAAAGGAGAG ATCTTCTGTC AGGAAGAAGG GAAAACAAAA CAAAACAGAA
150101 GGCTTTTGAA AAATGTTCCA AGGTTAGATG TACACCTCTG TAGCCTGGGT
150151 AAGGTGCACA TGCCCAGAGG AAGGCATTTA GGGTATCAAT TTGCTCCCAG
150201 TGTTTACCTG CTTTCTGACA TGTACCAGGC TCTCCATTTT ACACCCATGC
150251 TTTGGCAGTT TCCACCTGCA GATAACTGGC CCGTCCCAGG TATTACCCTA
150301 TGAGTACAAG AGCCGATTTG AAGCAGGCAA GTTCCTCTAG AAATACCAGA
150351 TATATGAGAA TTCTGCTTGC AGCCCTCATC TTAGTGTGCT CAAGACATCC
150401 TGTACACATG GGCTCAAAAG TAAAATCTGT CTTTGTCTCT CTTCATCACC
150451 AGTCCCATGA CATTACTGAA AGTTTTTACT GAAACAGCAA ATTTTCTATC
150501 ATTGCATTTA TTACTGCAAT TTCCACTGCA GGTACTCTAC TTCAACGAAG
150551 CTGAAGGAGC CAGAAACGTC ACCACAACCA TAAGAATGCA AGTCTATTCC
150601 AGAACAGATG AGCGCCTATC AAATCACCGT GCCTGTTTCC AGAAGGTATA
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CR1-d

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150651 TAACCAAGTC TAATGATCAT AGAATCATAG AATGGCCTGG GTTGAAAAGG
150701 ACCACAATGA TCATCTAGTT TCAATCCCCC TGCTATGTGC AGGGTCACCA
150751 ACCACTAGAC CAGGCTGTCC AGAGCCACAT CCAGCCTGGC CTTGAATGCC
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MAR (0.852)

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150801 TCCAGGGATG GGGCATCCAC AACCTCTTTG GGCAACCTGT TCCAGTGCCT
150851 CATGATCAAG CTACAGTCAT GCTAACACCT TCCCTTGCTT TTATTTTCTC
150901 TCTCTGTTTG CCTTCCTCAA ATGCAGGGTA CACAACTGAT TAGTACAGCA
150951 TCCTGTGATA CCTTCACCTT ATGCAATACT TAAGACATGC TTCCCATTTG
151001 TAGGTAGAAT TGCAAAATTT AACCTCAAAT TTGCAAAATT TGAAATTTAA
151051 TGATGGGACT ATTCTCTATC AGTGGACCTC TTGATCTTCT CCCTTCAGCT
151101 TTGAGATTTC TCTCTTTTTT TTTTCTCTTT CTTTTTTTCC CCTTTCCTCT
151151 TCTTTCTTTC TTCTTTTTCT TTTTCTTTCT TTCTCTCTTT CAATCTTTCA
151201 TTCCTTCATT CTTTTCTTTT TAACTACTAC TGTTCAATTA GTTATTGCTA
151251 GTTATTCAGG AACATGTTCT TTGAACAGGC ACAGTCCCTA TCTCAGAACA
151301 AATCAGAACA ACAAAACTAC TCTCCCACAC ATTGGATTGC AGCATCAACA
151351 CAACAACAAC AACAACAGAA AAAACAGCC AGAGAAGTAA CTTTTACAGA
151401 CTATCCATGC TTGATACATT TCAGAAATTA GTTTCTATTT CATTTGAAAG
151451 TTTAGTGGAA TAAATTGGCA TGTTGGAATT CCTAAGGTA GACCTTGCAA
151501 TAAATCTTAA AGAAATGGGA ATTATTGTAT TCCCGAGATA TTTCTTTGAC
151551 AGACTGGCAG GCATCTTTTG TTAAAATAGA CATAATTTAA GAGAGCAGAA
151601 AATTTGGAAG TCAAACTCTG AGTGAGTAAG GTAGTTTTTC CTCACTGACA
151651 ATGCAGCCAC TGTGGTAAAA AGTTCCTCTC CCTACTCTTT CCCATCATTC
151701 TTTTTTCTTT TTGTGAGTAA ATCATTTCCC TGAAGTCTGT CCACAAAACC
```

Fig. 1-58

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 151751 CCTGTGGCAG CAAGTTTTGA TAAATGGGAA CTTGGGTCTA CATTCCACAG
 151801 CTACGGTGGG AAGACTAATT TTGGGGACTA CGCCAACAAA CCATTTATGT
 151851 TGCACGAACA GGAGATGGAT TGTTTCTCAT GAGTAATGCT TGTCTGAACT
 151901 GTAAGAATTA TGGAGCGCTC TAGGCAGGGA AAAGAAACTG TTCTAATAGC
 151951 TTAGAAATTT AGATAGCTGT TCATGCTTCT GATTTTCTTG CAGTAACAAG
 152001 ATGAATACAA CACAGGTCCA GTTTCTTAGT CCACTAATTC ACAGCTTCAT
 152051 TTCCTTAAGC TGGTTTGACA GTTTGAGTCC ACATTCATAT AATTCTGTTA
 152101 CATAAATATA AAGAATTTAC TGCAATTACT ACAACAAAAA GCATTTGCAA
 152151 AATATTATTA TTTAGAGGTA GGTTAAAAAA GTTAGAGGCA AACTTACCAT
 152201 GTAATTAACT TTCATAAATC TTATCAGGAG TCACACAGCC AGGTCTTCAT
 152251 GTATAGTTTA GCAATTACAT TCTGTCTCTC TCTCTGTATG TACTTCATTT
 152301 TGCAACCTCC ATTTAAAAGT CCTTAAACAT TCTAAACAGT TCAAGCTTTT
 152351 ACTACTTGCA TCCCAGGGCT CTTACAGTGT CTATAGCATA TCTGAAACTT
 152401 TTAGTAATTT CACATCATTC TTTTAATATC TGTCTGAGTT AGTACACATC
 152451 TTGCATTGCA GTAAAGGCAA CACCACCTGA ATAGCAGTAG TTTACATAGA
 152501 GCTGCATGAG GAAAGAATTT AGAAATTTTG AACTGTTTTA CAGAAAAAAA
                                               W gene exon 2
 152551 AAAAATGTAT AACCCTTATT TCCTTGTCTC CAAGACAGAA ATAGGCAAAT
 152601 CAGGTAATAT CCATGCTGGG TTTAAAGCAC TCAACTTGGA AATCAACCAA
 152651 CCCACTAAAA GTTACTTGCT TAGAAGCGTC AACCAGTTAT ATGGAGAAAA
 152701 GTCACTGCCT TTCAGTAAGG TAGGTAGGCC ATTTATTCAT GTTATCCTGT
 152751 GTGTGTCAGA CTTTATGATC TATCTATGAC AACAAACCAT AAATTATATG
 152801 CTTTCAAATA TTTTCATTAC ATCTGCAAAT TGTGTAATTA TCTTTAACAT
 152851 ACTTCCTGTG AGGTCTTCT TGAGAATTTA GATATCATGA CTTTTATAGG
 152901 ATGTATATTT AATTTGTGTG ATTCACAGTT GTGGCTACGC AAAAACATTT
 152951 AAATTATGTA TTTCCAAATA AAATCAATAC TATGTTCTTT TGACAATGCT
 153001 GTGCTTGTAG CCTACACAAT TTTTATGCAT TCTCTCCAAT CGGCTATAGT
 153051 TATTTATTGG CATTCACACT GGCAGGCAAC AAACATAAGA CAGATGTCTA
                                            W gene exon 3
 153101 TCTTGCACTG CAGGAATACT TACAGTTAAC CAAGAAATAC TACAGTGCAG
 153151 AACCACAATC AGTTGACTTT GTGGGAGCAG CAAATGCAAT CAGAAGAGAG
 153201 ATCAATTCCA CGGTTGAACA CCAGACTGAA GGTAAGCTCT AGCATCTCCT
 153251 CTCCCAGTTC TGAAGGAAGC AGTTTTAGTC TTGAACAATT TCTCTGTGCC
 153301 CAAAGGCAGG TAAACAATTT AACTCAGAAA GGAAAATCAG AACAGTTTTG
 153351 CTGAAGTAAT CATCTGCTGG CAAGCCCTTT CTAGAATTAT CTTTCACCAT
 153401 TTGAAAGGGA GAGGAATGTG GTTTCCTCTA TAAATCAAGG TTGTCATGTA
 153451 TTTATGAATA ATCTCAAGCT AGAAGTATGC CAAATCAGCA CTCTAAATTT
 153501 CCTTGTCTTA TGACTTCAGA AACTACGCCA GCATTTACTC TGAAACAGTA
 153551 AAGCTGCACA AATATGTAAA CGTTCTTTGT TTTTCTCTAG GTAAAATAAA
                                         W gene exon 4
 153601 AAGTCTGCTG CCTCCTGGAT CCATAGATTC ACTCACCAGG CTAGTCCTGG
 153651 TAAATGCGCT CTATTTCAAA GGAAACTGGG CAACAAAGTT TGATGCTGAA
 153701 GATACCAGGC AAAGGCCTTT CAGAATAAAT ACGGTATGGT AACATACTGC
 153751 CTTATATACC AGACTGCAGG TTGAAAAAGC AGTGAAAAAG ATGGAGGAGA
 153801 TAAATTCCTG TCATTCTTTA AAGCCACATA GCACTAAAAT TAGTATATTT
 153851 AAAACATACG TTATATCCTT CTTAGCACAT CTTCAGTACA AAGACCGCAT
 153901 ACATATGCTA GCACCCAAGG CACAAATAAA ATTATCAGAA GCCAGCTTGA
 153951 AACAAACTTC CATACACCTC TTAAAGCAGG AAAAACATAG ATGTGAATAG
 154001 AACTGTATGA ACTAGTTCTA TATATTTTCA TTTTTAACCA TACAATGAAT
 154051 TGGAGTGGAA CAGAGCTTCC AGTAAATACG TGTCATCCTA GCTGGCTAAG
 154101 ATAACCTTCC CAGCCTCCCA GTGCATTCCC AGAAGAGAGG GGCCCTCTGT
 154151 AGATCCTACA GCTTCTCTTA GAGCCACAGG GATGTACCTC CATGCTACTT
 154201 CAATGTAGTC TTTACTGTTC TGAGTATAAA TAGCAAGCTT TTCATTTGAT
```

Fig. 1-59

W gene exon 5

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154251 TTGTTGCAGC ATACAACTAA ACCAGTGCCA ATAATGCACC TGAGTGATAA
154301 ATTTAATTGG ACCTACATAG AATCAGCCCA GATTGATGTT CTTGAGCTTC
154351 CATATGTCAA TAATGAACTC AGTATGTTCA TCCTGCTACC ACGGGATATC
154401 ACTGGCCTAC AAAAGGTAAA GGGTAACTTT AAACTCAAAT TGCGTGAGAA
154451 ACAACGTTTT CATGCATATC CATGGCAAAG CAATCCTGTT TCTAGGAAGG
154501 AAGGTATCGA TAAGGCTAAA GGAAAAACAA ACCCCAAACT TGCCCAAATG
154551 TTATGAAGCT GAACCTTTTC AATGTTTTGT TTGGTTTTCT TTTTAACTCC
154601 TGGCACGTGG CACCTCGTGC TTCCTCATGT TGATCAGTGC TGGAAATAAG
154651 TAGCCCGAAT CCAACAAGAT AGATCTAATT CCAGCTGAAG AACAACGAGG
154701 ACAGAAAGAT AGTTCTGCTG ACTGTCTGTA CTGATTCGGA CAGATATTAT
154751 TACATTAAAA AGAAAAGCAC AAACTGGACA CCCTCCACTA CTTTCTGTGA
154801 TGTTTAGAGC TAATATACAT GTACACTGCC ACCTTCTGTA AACACACTGA
154851 ACCTGACTTC AGATAGTGAA CTACTGTGAA ATTCTCATTT ACATTAGTGG
154901 GTGTTTTGTA GAAAAAAAAA AAAAAGTTA TTTTCACTAA ATTCTAAGAC
154951 ACACAGAAAA CAGAAATGTG AGCAGCAAGT CAAATAGACT ATTGTTACTT
155001 GACAGTGACG TTGTTTTACA AATATTTAAT CCCTCTATAT TCCCTGATGA
155051 TTACTAAGAA CAGTTCAAAT ACTGCACTAA CATGCTGTAG AGCAAAACAC
155101 TCCTTCCTAG TAGAAAATAT TTCAGAGTTG GCATTCACT AATGGTTTCT
155151 GTACTTGAAA AGTACAATTT TTTTTGCTAC AAAAAAAAGC TACAGAATTT
155201 TTGTAGTTTG AAAAGTTCTT AAATAAGAAT ATAAAGAAA TAACCCCTAG
155251 GGAACAGTTT TTTGAACACT CTGTAATTTT CTGGTTCTCT TTTCAATTAA
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W gene exon 6

```
155301 CTGCAGCTAA TAAATGAATT GACTTTCGAA AAATTGTCTG CATGGACCAG
155351 TCCAGAATTA ATGGAGAAAA TGAAAATGGA AGTGTATCTG CCCAGGTTCA
155401 CAGTAGAAGA GAAATACGAC CTGAAATCTA CTTTGAGCAA GATGGGAATA
155451 GAAGACGCTT TCACTGAAGG TCAAGCTGAT TTCAGGGGAA TGTCAGAGAA
155501 CGCTGACCTG TTTTTGTCAC AGGTTTTTCA CAAGTGTTAT GTGGAAGTCA
155551 ATGAAGAAGG CACAGAGGCA GCGGCTGCCA GTTCAGCATC TCTAGCGTCA
155601 CGAACCCTTG GTGCTACAGT TATTTTTGTA GCAGATCACC CTTTTCTCTT
155651 CATTATCAGA CACAACAAGA CCAAGTGCAT CCTTTTCTTG GGAAGGTTCT
155701 GCTCCCCCTA GAAAATCAGC TATTAATAAA CAAGCCCTTA CAACAACGAT
155751 GAACACAATG TATGCCATGA AGAACACCTT GACAGACTTT GCACTTTACC
155801 ATTTTCCTGT ACTATTGACA ATCTCTTTTA GAAGAGAGCT CAAATTAAAA
155851 ACATGAATTC AAACCTCTGA TTCCTTTTCC TCTGCAAAGA ATCCTAGCAT
155901 CGTATACTGC ACTGTAGAAC ACTGAACTGC ACGCTGAACA ACATGGATGT
155951 GTCTTTTCAG TGCTGTCCAA ACCAGAACTG CTACAATGCA GAACAGACTA
156001 GGCTGATCTA AACAGTACCT TCTGACCCAG TTCCTTTCAC ACGTAAGAAG
156051 AAAAGAAACA GGAGAAACTC ATTCCTGCAT ACAGCTGTTT CATCTCTTCA
156101 AAGCCAGCTG TCCCAGGCCA GCTCAATCAC AGCCTTGTCA GTTTTAAATC
156151 AGCTTCACAA CATAGCATGG CTGGTAATGA AACAAAGTG CAAAATCCTC
156201 TGTGTTGCTG ATACTGGTGG TTTGCTCTTG CACACAAAGG AGCTAACACA
156251 TGTACTTTCT AATCTCTGTC CCTCATAAAC TAGCAAATAC CAAACAATAC
156301 AGAACCAGAG TAAAGTAAAA TACATACCTT GAAATGCTTT CTTTTGTCAT
156351 AACCTTTAAT TCATTCAACG CTGTTGCAGC CCAGCACTGC ACTGCTTTAC
156401 TTGCCTTTTA CTTTGCCACA TATTTTGCTG CTTGGAGCAA GTGGGAGAAT
156451 AAAGTCTGTT ATGTTAACTC CCTAAGTGCT GTCTAAAGA TTACATGCAA
156501 ATTCTCCTCT ACATATTCAC TGCTTTCACA GCTTTTACTC CTAAAGGGGA
156551 GGAATTCCTA ATCAGTCATG CACATCTAAG AACACAGGTG ATGCTCCTGT
156601 TTCTCTGAAT TCAGAACAGG GAGGAAAGGA CTGGGTCTCT TAACAGCACT
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MAR-like element

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156651 TGCACACACA CTGACAGCAT CTCACTAGAA ACATCCCTTC CCAGAAAGGT
156701 AGGATACCTT TTTCCTGGCA GAGGGAAGAG CGCTGACTGA TAGTGAGTCC
156751 TTTCTGTATT ATTCCACGTG ACCAACTGTG GCCAGGCTCC CTTTTGGCTC
```

Fig. 1-60

```
156801 TGCTTCCCAA ATGGGAAGGA ACGTAGGGAA GGGCCAATGG CAACCAAATT
156851 AGAGGGTGAG TCTTGCATTG AGGAACACCA TTTTCCCACC GTAAGTAGCA
156901 CAGCACTGGG GCAGACTGCC CAGAAAAAAA TTGAGGATTT CCCATTCTTC
156951 AAAGGGCTGT AGCTGACCTA ATTTACCAGT GGGTCTGCTC CAGGCATGAG
157001 CTGGACTATG GAAATACCCA TAAACCAGCT TGTGTCTTGT TTCTATCAAC
157051 ATCCATTCTA CCTTACCACC TCAATTTCTC ATCCTCTCTG GCACCCTTAC
                                                    MAR-like element
157101 AGCTTGACAA GCAGGGGCAG TTAGCTTGCT TGCTTGCTCT CAAGCATATT
157151 TCTTTGAGAC TTGGAATCTC CCTAGCTTGT ACTTTCCCAT CAATCAATCA
157201 CTCAGTGGAC CTTTCTTCTA CCCTGATTTT TTGACAACTC CTCTCATTGT
157251 ACTAAAGTCA CCACTTGTTT AGTTTCTGGC ATTTCTTCAT TGCCTTGCAT
157301 AATACTGATT TCTATAACTT TTCAGAAGAC TTGACCCGCT CTGTTCTTGT
157351 AATCAAGCTT ACAGCAAAAT GCTTGGCACA CCATACAGTT TCCTTCCCTT
157401 CCTCCTCCTT CCTTCCCTGT CCCCTAGACT CTTACAGATA TTGCCACTAC
157451 CTTCCCCTTC TCTTACCACC AAAGAGCTGC TCTGCTGTCT TCTGGGACAG
157501 CAGAGTGACA ACTATTGTGA CATATTTATC CCTGTTGTAT TGTTTTCACT
157551 CCCTCCTTGC TCAAGCTCTG CCAGTGGGGC CGTTTCAGTT CTTGCCCACC
157601 TCCATGGCAT GCAAGTACTG CACACTAACT CAGTACTCTG CAGTGCTTCT
157651 CTGAAGCGTT TCCCAGCCAT GGATGCAATG AGATTCTTTC ACCAACACAA
157701 GAAGCAAGGT ATTCAACCTT ACACCTTCAA TGGCTTTGCC TCTGCCTATG
157751 CTCCTAATGA TCTTCACTCT GAAGCTTGAC TCTCAGAGTC TCATTCAGTC
157801 AGTAAGCTCC TGACATTTTA TGCTGATGCA TCTTACTCAT AGAATCATAG
157851 AATGGCTTGG GTTAGAAGAT CATCTAGTCC CAAGCCTCCT GCCAACCACT
157901 AAATCAGGCA CTACATCAGG CTGCCCAGGG CCCCATCCAG CCTGGCCTCG
157951 AACATCTCCA GATCTCCAGG GATGGGGCAT CCACAGCTTC TCTGGGGAGA
158001 GGTTCCAGCA CTTCACCACC TTCTCAGTGA AAACTTTCCT CAACATCTAA
158051 TCTAACTCTA CCTTATTTTA GTTTTAAAAC ATTCCCCCTT AACCTATCAC
158101 TACCTTCCCA TGTGAAAAGT TGATTTCCCT CCTTACTTAC AAGCTTCTTC
158151 TAGGTACTTG AAGGCTGCTA TCAGGTCTCC CCTGATCCTT CACTTCTTCA
158201 GACTGAGCAA GCCAAGCTTC CTCAGCCGAT CTTCAGAGAA GAGGTCTTCC
158251 AGTTCTCTAA CCATCTTCAT GGCCCTGCTC TGGACTTGTT CCAAAGGTCC
158301 ACATCTTTCC TGTGCTGGGT GCCTCAGACC TGGACACAGT ACTCCAGATG
158351 GGGCCTCATT TGGGCAGAAC AGAGGGGGGA CAATCACCTC CCTCTCCCTG
158401 CTGGTCACCC TTCTTTTGAT GCAGCCGGGG ATATTGTTGG CCTTTCAGGC
158451 TTCAAGAGCA CGCTGCTGGC TCATGTTAAG TTCTTCATCT GCCAGGATCC
158501 CTAAGTCCTT CTCAGTAGGG CTACTCTCGA TGAATTCTTA TCCTAGTATG
158551 GATACATATC TGGGATTGTC TCAACACAAG TGCAACACCT AGCACTTGGC
158601 CTTGTTGAAC CTCATTATGT TCACATGGAC CCAATCCTCA AGCCTGCCCA
158651 GGTCGCTATT AAAAAAAACA AGTGTCATGG CTTCACAAGG CTGGAAAGTT
158701 GGATCAGGCC TACAATACCT GCTAACATCC AGAAACCAAA ACCATGCATT
158751 CTGGCTCTGT AATCATTTTA CTAGATTTAT TTAGTTTAAA CAACAGGCCA
158801 GTTGTCTTCA CAACAACAGA AGATCACTGA AATGAGTGAG TGACTTGTTT
158851 TACTGTCCTC TCAGTAGACA ATTGTGGTGT AACAGTTAAA ATGAGATTAT
158901 GATCCACATT GTTCCTTTGA AACGCCTAAA ACTAAAACAT AACATGATGA
158951 ACAAGGAAGA CAAAACTGTA TGAGATCTTT TTGTGATTCA TTAGAAGCTT
159001 TGAGTAGGCG GGAACAGTGT TGACATAGGA GAGAAGGAAA AGGAAGTGCA
159051 AACTGTACTA TATTTCTAAA TTTATTCACT GCATAACACA CAGGCACAGA
                        MENT exon L
159101 ACCTGACTGA GGACAAGACT CAGGTCTTCT CTCTCACGGG ACCACAGGTA
159151 AACATTTAAA CCAATTTAAA TAACTTTTTT GATGTTTTTA AATGGTTATC
159201 TATAGCTTGT ATGACAATGT AAGTATATTA AAACACACCA GAGTTATTCT
159251 GTAGTCGGGA GCATAATTGA TCACAAGAAG GAAAATCTTG TCAGGACAGT
159301 AGCTGTCTTA CTAATTAAAA TGTTCAGTTT GATAAAGGAG TCTCATACTT
159351 CAGGTAAAGC AAAGGCCATT TTCATTCTGC CTTGTATGAG GTCAGGCCAG
```

Fig. 1-61

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159401 GGACTCAGAG GAGCAGAGTA AAACAGACAG ATTTCTATCC TGATGCTCAT
159451 TTGGTCAGGT TCTCCAAGGA GAGGAAGTCA CTCTGTTGGT ACAGATTTGG
159501 TGTAGACTGG ATAACGACTG CCAGAAAAAC TGAAGTGGTT TGGTAACCAA
159551 AATCTTGATA AATATCTGTG GACTTCAGAG ATTGTCCTGC AATTTCTGCA
159601 GTGCCATTCA ATAAATATAA ATCTTTCTTT ACATAATAAT AACTACTACA
159651 ACAACAACAT TTTCCAGTCC CTCTATCAGA AAACAACATC AAGAAGGCAC
159701 TACTGAACAG GTAAGTTAAA GTTTGGAATG CTCATAGCTT ATATGCATAG
159751 GTATTTGCCA GTTTCTGGGG AAAATAAAAT TGCAAGAATA TAAAGAAGAG
159801 ATTGTAGTTA GACTTCGTGA ATAAATGGT AACACTCTAA AAGCAAATAA
159851 CAACTTTGCC ATACATTATA TTATCTGAAA TGGGTGACTA GCCAGAAAAA
159901 TTCCATAAGC CTAAGAGTTA CACCTAAATA CATTCTCAGT ATCAGCTCCT
159951 AATTCTATCT AGATCCAAAA TGAGGTAGTG AAAAGTTCAA ATGTCCCATG
160001 TACAAAAAAC TACTTAAACT TCCCTAGGAA CATTACTTTG ATAATGAGTT
160051 AAGAATGAAA ATGAACAAAA TATGCAGCTT ACAAATCCAC ACACTTTTGA
160101 AAACCAAAGG CAGAAAGAAA CACAAATAAA AGGGCAGATC TATAAAAGAG
160151 GACATATCTA TAATCATAGA GAAATATGAG ATGGATAACA AAAACCTAAA
160201 AGAAACTGCT GCTCCCAGCA GGTGGCACAT GGTATGTGTA GAACATATAA
160251 CGTACAACTA GGCTATTAGT TTCAAAAGGT ACCTACGTGC TCCGTTGCAA
160301 ATGTAACATG TAAATGTAAA ATGTAAATGC AAATGTAACT AATATGCACT
160351 ACATACATCA TTTTAGACAC TCAAATACTA CAATTCTGTC TGTTGCCTCT
                           MENT exon 1
160401 TTCCAGGCTG TAGCAATGGA ACAGGTCTCG GCATCAATTG GCAACTTTAC
160451 AGTTGATCTT TTCAACAAGC TGAATGAGAC CAACAGGGAC AAAAACATTT
160501 TCTTTTCCCC TTGGAGCATA TCATCTGCTC TCGCCCTGAC ATATCTGGCT
160551 GCAAAAGGCA GTACAGCAAG AGAGATGGCA GAGGTAAGTA GCTCTGTGAA
160601 GCTATGATGC TCAACACTGC CCAGCACTGC TGTTGAGATG CCCTGCTCCG
160651 TTGTCATAGG GAAAAACTAC ATTTGAGTTT GCACAAATGC ATTGCTATTG
160701 CTGAGTGCAA TGGCTGTGGA AGGGATTTCA GCCTTGTAGT GCACAGACAG
160751 AAGCACTGTG ATGATGCTCA CAGGCAGGAG CAATACTATT CCTTGTTACT
160801 GTAGGGGATT TACATATACT AGAGCTCCAG TGTCCCTCTG ATTAGATCAG
160851 AAGATAGCAC AGTGTGTTAT CATAAGGATC CAAACAAGAC AACCATTTTA
160901 TCTCTTTTAG GTTTTAGGTC ATGCAAACTC TTTCATGTCA GTTTCTTACC
                           MENT exon 2
160951 TTTGGAAACC CTGTTTGCAG GTTCTTCATT TCACTGAAGC TGTGCGAGCT
161001 GAAAGCTCTT CTGTGGCCAG ACCTTCTCGG GGGAGACCAA AAAGAAGAAG
161051 AATGGTATCT ATTAAACATG AAATCCCAAG ATAAGAGTTC AAATGTCTGG
161101 ATATAGTTTT TAAGAGTCCA CCATTTCTTG TTTGCAGCTC TCTTTATGTT
161151 TAAAGTATAA AACCCAATAT ACTTCGCATC ACATCCAATT TCAGTTCCCT
161201 TCACTCATTC AGACTCAAAA GTATAGAAGC ACAAGTCACT GGTATAATCT
161251 GAAAGGATTG CAATATGGTA AATCAGTTAA TCAAATCATA AAAGGAGCCC
161301 TGCAAACTGC AGTGGTGGTG AATTTGGAAA GATAAAAAGT AAGAGAGAGG
161351 AACAGAAATT CTTCCCCCAC ATCTACCCCT TAGCGTTTCA AAAACTTCAT
161401 GCCAAAAATG CAACTGGTAA ATGTACAGTT CTCTTTCCA AGGACCCTGA
                           MENT exon 3
161451 GCATGAGCAA GCTGAAAACA TCCACTCTGG ATTCAAAGAG CTCCTGACAG
161501 CCTTCAACAA ACCCAGAAAC AACTACTCGC TGAGAAGTGC CAACCGTATC
161551 TATGTGGAAA AAACCTACGC ATTGCTGCCT GTAAGTTGAA TGGTTTTATG
161601 TCAAAGAAGA AAAAGAAAAA AAAAGAAAAG AAAAGAAAAG AAAAAAAGAA
161651 AAAAAGTTT TGCATTGTAT TCACTTACCA TTAATAGAAC AGATCTGAAG
161701 CTGTCCATAA ATGCTGCAAA TGATGAGTCT TGGCTTCCAG TGATAAACTT
161751 CATTGGAAAA TACAATTTGG TCTTCTCCCA GTATATAAGA ATGCACTTGG
161801 CTGTAATGCA GGACTCCTTT TCATGTAATA CAGCTTTATC ACTAGGAACC
161851 TCAGTACATA CAATTGAAAA TGAGATATTA AAATACACAT ATCCAGGGGA
161901 TTTGCACAGT CTTCCTTCCT TCTCCAAATA AAAATGGGAA CGAGAGAATA
```

Fig. 1-62

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161951 AGAGTATTTC CTTTGGTTAT TTCCTAACCA TTAACTCACT GCTCAATAGA
162001 GAGCAAAATG CTAGATCCTG CAATTGCCTG TGTGCAAAAA GTTAACAAGA
162051 AGTCCAGTAG CTAACAAATT ACTTTTTGGA CTATAAAAAT ACTGTACAAT
162101 ACAGAATGTT TCCTTCTTTC GTTCTTTTTG TATGCCATTT TCCAGACATA
                         MENT exon 4
162151 TCTACAGCTC AGTAAGAAAT ACTATAAGGC AGAGCCACAG AAGGTTAACT
162201 TTAAGACAGC ACCGGAACAA TCCAGAAAGG AAATCAACAC CTGGGTGGAA
162251 AAACAAACCG AGAGTAAGTT GAGCTCAACT CCAACATCCT TCCTCTTCCC
162301 ACTGTTCCCT TCGGGACCCT GTTCCCACTC CTGTGACTGT GGCATCCAGG
162351 TCATGCCCTC TGGTGTGGGC AGTAGATGGC TGTCTGCTTC CAGCTGCTTG
162401 CCTTGAGACT GTGGCGTTTT TTCAGGCAGG AGCCAATTGC TGTCAGCTAG
162451 CCAGGAGAAC TGGGCAACAA ACAGCAAACA GACTAACTGG TTTATGTCAG
162501 GGAAGTAATC CAGGGAGTAG GGCACTGAGG CTTGCACTTT TTCACTAAGG
162551 AGTTGAACTG AGTGGATAAA GAATCAACAC ATTCCCTCAC TGTGTTACAC
                                             MENT exon 5
162601 TGGAGTAAAG CCTGACTTTT CTGATTTCAA AAGGTAAAAT AAAGAATTTG
162651 CTGAGTTCGG ATGATGTGAA AGCCACCACT AGGTTGATCT TGGTCAATGC
162701 CATTTACTTC AAGGCAGAAT GGGAAGTGAA ATTTCAGGCA GAAAAAACAT
162751 CTATACAACC CTTCCGACTG AGCAAGGTAA GCTCCTCTGG TGTCCTCCTT
162801 AAAACAAGCA GACTGGAGAC TGCACCCACT ACCATCTTTT ATTTCATCCA
162851 TCCTTTAGGC ATTCCTTGGT AAACAGACTC TCTGAAAAGT TGTTTACAGC
162901 AAAACATGTC AGTTGTCAGC TCACCAACAT TTATGGAACA TTAAGATGCT
162951 GCTCAGGCAA AGGATAACTA GATCCAGATG GAACACAGTT TCCAAAAATG
163001 CTAGGGTCAA TTAAAGCCTT TTTGCAAGAC TGAGGTATAA GAGCTACATT
163051 GTAAAAATCA GATATTAAGA GTCCATCCTT CCTGCACAGG AACTACATGC
163101 TATGCTATGG ACGAGTGCAG TACCCGCGCC TCTGTGCTGC ACAATCCGGC
163151 TGTGAATACA GCTGCTAAAG TATGGATGCA GCAGCACAGC TCCACTGGAT
163201 GGGTGCATGG CCGAGTGAGA CTAGAAGTAA TGTTGCCAGA GAGGAGATCA
163251 CAAAAAGGCT GCACAACATT TATCCTCTCA CACCATAGCT GTTTCATTGC
163301 TGTAATGTTG GGTGCCTGTA TGCCATGAAT GCTCCATCCC CCTAATTCTT
163351 GAAGATATTT CTGACTCCCT TCCTCTCTCC TCTGTGGGTT GATGTGCATG
163401 TTCTGGGGAA AAGAGAACAT CAGTTAGCTC AGTCCCCAGC AAAATACTCT
163451 GGGAAAAGAG CCAAGATCAG CAATATTGTC CAGTCAAGAA AAGCCTTGGA
163501 AAAAGAATGT CAAATCTCTG TTACAAAGC TGCTTATGAA AGTTTCCTCT
163551 TTACAAGGAA TTCCTTTTTT CAAGGAATAA TTTTAACCGA TAAATAAATA
                         MENT exon 6
163601 CCTTACAGAA CAAGTCCAAG CCCGTGAAGA TGATGTATAT GAGAGATACA
163651 TTTCCAGTTC TTATCATGGA AAAAATGAAC TTCAAAATGA TTGAGCTTCC
                              MAR
163701 ATACGTGAAA CGTGAACTCA GTATGTTCAT CCTACTTCCT GACGACATCA
163751 AAGATGGTAC TACGGGTCTT GAGCAGGTAA AAAGTTCTGC TACATCCATT
163801 CTGTATCGCC ACTCAGTCAT CAGAACAAAA AGGACAGGCT GATGACCATA
163851 CGGCCCTTTC TTTCTTTGGC AGTTCATTCG GCAGAAGTAG CGCACAAAAA
163901 CTTGCAGCAT TATGTCTCAC ATTTGCTTTG CAGCCTGTTC TCTGGTCATC
163951 AGTAAAAGCA ATTTATATTT CATATTTTCA GCTGAATGTT AAATACGCCA
164001 TTTAAAAATC TGTTTAAATC ATTAAAAAAA AAAAGACAAT CATAATTAAT
164051 TGGTTTATCC TTGCAATTAT CAAATTCCTC TCATTTCTTA AACAACAGCT
                         MENT exon 7
164101 GGAAAGAGAA CTCACCTACG AGAGGCTGTC AGAATGGGCT GATTCAAAGA
164151 TGATGACAGA AACTCTTGTG GATCTGCACC TGCCTAAGTT CTCACTGGAG
164201 GACAGAATTG ACCTCCGTGA TACTCTGAGA AACATGGAA TGACAACTGC
164251 CTTCACAACC AATGCTGATT TCAGAGGGAT GACTGATAAG AAGGATTTGG
164301 CTATTTCCAA AGTCATTCAC CAGTCTTTTG TTGCAGTTGA TGAGAAAGGC
164351 ACTGAGGCAG CTGCTGCTAC AGCTGTAATT ATATCATTCA CAACTTCAGT
```

Fig. 1-63

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164401 TATCAATCAT GTTCTGAAAT TTAAGGTTGA TCACCCTTTC CACTTCTTCA
164451 TCAGACATAA CAAATCCAAA ACAATCCTGT TTTTTGGCAG ATTCTGCTGC
164501 CCAGTAGAAT AAATTATTCC TCACTCCTAG AGGGATCCAA AGTTCACTTT
164551 TCAAAGGAAA AAATGTGAAC TGTAGTATTA AAAGCTCAGC CTTCAATCAT
164601 ATAGCCATAA GTACTGGAAG TCTATGTCTT TTTCCTTAAG TAAGGCAGCA
164651 CCCAGACACC ACCACGCGCC TCGAAGACTG TCTCTCTACT GCTCCTTTCC
164701 ATTATGCTCA TGAAATTGCC TTTTATAGAA AGCAAATGCT TGAGGTACAA
164751 TTGCTAGCCT CTGTTCACCT TGCGTTTTGT CCTTATTTCT CTAAACTCTC
164801 AAGACTGAGG TTGATAAGTA TCCCAACCAG CAAAAAAGAC CAAGAAAACT
164851 ACAACAATGT GCCTTATTGC TACCTCTTAC TGAAATGTGA CCTAAACAAT
164901 TCAAATCTGC TTCCCGTTTT CATTAACATA ATTATATGTT TCCTGGCTAA
164951 CATCTGCACG GTCTCCTTGC TACCTGGATC ATTGATAAGT GTATGATTTG
165001 TAACTTACGA GTGCCTTTCA GCTAAGATAG TCCCGGTATT GACAGAAACA
165051 CCAGTAACAT TTTTATGGAT GCTTCACTTC ATTATTTTGC CATGATCTAC
165101 ATTTAAACAA TAAATGAATT TGGAACTGTG TTTATGCTAT GCAAGATTCT
165151 GACTCACGTA GCTCTTTTAC AGCATCCTGT ATAATGGGTG GCTGACACAT
165201 ATTTCCATTC TTGTTATTTC AAACCAACCA TCACATCACC GCTAACGACA
165251 AAGTGCTGAG GCACTCTAAT AAACCAGGGT CTTACTCCCA CTAGATTTCA
165301 TACAACACTG AAAACACTGT CGTTCAACGT GTTATCGTAG ACATATACTA
165351 GACACACCAA TTCAAATCAA AGCCTGTGAT AACAGAGTTA AGGCATTTGC
165401 CCAGTCTTGT TCAACAGCTT CACCAATAGT CTAGATAAAG GGATAGAGTG
165451 AATCCTCAAC AAGTTTGCTG ACAATATGAA GCTGGGAGGA GTGGTTGATA
165501 CACCAGAAGG CTGTGCTGCC ACTCACTGAG ACCCAGACAG GTTGTAGAGT
165551 TGGGTGGATA GAAACCCAAT GAGCTTCTAC AAGAACAAGC ATAGGGTGCT
165601 GCAGCTGGGG AGGAATAACT GCATGCATCA CTACAGATCA GAGGCTAGCC
165651 TGCTGGAAAA AAACCTCTGA AGAGAATAAG CTGGGTGTCT TGGTAGACAA
165701 CAGATTGGCC ATGAGCCAAC AGTGTGCCCA TGTGGCCCAG GTGGCCAATG
165751 GTATCCTGGG GTGAATTAAT AAGAGCGTGG CCAGCAAGTT GAGAGAGGTG
165801 ATTCTCCCCA TCTACTCTGC ACTGGTGAGG CCACATCTGG AGTACTATGT
165851 CCAGTTCTGG GCTCCTCAGT TAAAGGAAGA CAGGGAACTG CTGAGGAGAG
165901 TCCAGTGGAG GACTGCCAAG TTGATTAGGG ACCTGGAGCA TCTCCCATAC
165951 AAAGAAAGGT TGAGAGACCG CAGACTATTC AGCTCAGAGA AGAAAAGACT
166001 GAGGGGTGGA TCTCATCATT GTTTATAAAT ATCTAAAGTA CAGGAGTCAA
166051 ATGAATGGAC CCAGACTGTT TTCAGTGGTG TGCAGCACAA GGGGGCAATG
166101 GCTAAAAACT GCAGTGCAGA ACGTTCTATA CAAACATGAG GAAGTACTTC
166151 TTTATTTTGA GAGTGACAGA GCACTGGAAC AGGCAGCCCA GAGAGGTTGT
166201 GGAGTCTCCT TCTCTAGAGA TATTTAAGAT CTGCCTGGAT GCTTTCCTGT
166251 GCAACCTGCC GTAGGGAACT GCTTTAGCAG GGGTTGGACT GGATGATCTC
166301 CAAGAGGTCC CTTCCAACTT CTATGATTCT GTGATCTGAA CTTGCTTTCA
166351 CTGTAAGCAT TCAGTTTCCC ATTGTTGACC ACTGCTTATT GCACTATCAG
166401 CGCCCCATGG ACCTACTGAG AAAGCTCATT TTCTTCTGCA TTATGATACA
166451 CAAGAAATAA AAGTCTGACC AGAGCAAATA GCCCAGAAGA GTGGCTTCCA
166501 AACATCCAAT GCTGTATCAG CAACATCCAT TTCTTCCATT AGCTTAGGAG
166551 GGCAGTAGCT GTGCTATCTT ATGCCTATAA GGAATTGGAT AAAGTTTTGT
166601 AGCCATTATG ATGCCCACCT ACCACACGTC ACAGGACATT ATTTCAAGCA
166651 ACAAGATCTG AATGCTGGAG GGAAGTACTT TAGAAATATA TACTCCTAGC
166701 AAAATTCCAC CTGTAACTAC AGCTCACTCT ATGCCTCAAC AAAAGGTAGA
166751 CTATTTGGAA ATATATCTCC ACCCAACAAA GTATATATAC GCCGCCTTCT
166801 CTGTACACTG TGCTGCTTCT AAACTCAGTG CCCTCCCTCA CCTGTAACCC
166851 CCAGCTCAGG GTTCAGCTGT CTGTCACTGA GGACCCACTT TGGTTCAGCC
166901 CAGCTGCATG CTACTGACTC AGCTTTGCAA AGAATTGCAC ATTGTAAATT
166951 GTATAAGTGT GGAAAAGCAC ACAAGTGAAA ACTACACAAT ATAAGTAAAG
167001 TAAAAACACA AAGAAGTTAC TGTCAGGATG GAATAGTCAG CATAGCAAGG
167051 ACTCGAGAGG ATTGCACGTA GGGGTGTCAA ACTTCAATTA AAAAAAAGTT
```

Fig. 1-64

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167101 AAGAATTGGA ATTCTCCAGC TTGTTCAGGT CCTTCTGAAT GGCAGCAAAA
167151 CCCTCTGGTG TATCATCCAC CCCTCCAAAT TTTGTATTGT CTGCAAATTT
167201 GGTGAAGGTG AACTCTATCT CAGCATCCTG GTCATTAATG AATGTGTAAA
167251 TAGTACTGAC ACTGGTGTTA ACCGCTGGAG TACACCACTA GTGACTTCAC
167301 CTTCAGCTGG ACTTCATACC ACTGATCACA GCTCTCTGGG CCTGGCTGGG
167351 CTCACTTATC TAACCCATCG TTTGTCAGCC TGGCCATAAG GATATCACAG
167401 GAAAAAGTGT TAAATGCTGT TTCTAAAGTT AAGGCAAACA ACATTTAGTA
167451 TTCTCCCCTC ATCAAAGAGA CTAGCTGCCT CATGGTAGAA GGCAATCAGG
167501 CTGGCTAAGC ATGACTTCCC CTTCATATAT CAATCCTGAC TACTCTCAAT
167551 CTCCTTCTTA CTCTTCATGA GTTTCACAGT AGTGTCCAAC TCTGTGGTAG
167601 CCTGACCTCG CAGCAAGCAG AAATGGCAGA GAGAGTACAG AATAATAAAG
167651 ACAAGGAATG TTACAGTGCT GGTGTATTTT TAGTACTCAA GGCTTGGATG
167701 CAGAAAAAAA CCAGCAACAA AACAACCTAT TTTAGAACTA AAATGCAAAT
167751 GTACCAATAT TTTTTAAGGT TTTTATTTCA CCATCAGTAA CTGGAACAAG
167801 AAAATCCCTT TTAAAATATT ATTTATACTC CAGTCACTTA CAGGTCTATT
167851 GCAACCACTG TGATACTTAT TCTCCTTTCC TCTCTTGTAG GACAAGGCTG
167901 AATGGGACTT CCCACGGAGT AAAAAACTGT AACTGGACTT AATCTAGCAG
167951 TGATTTTAAA TTGTGCTGCT TGTTAACCAG GCATAAATGC CTAGATGTAC
168001 CAAACTATAG AGTAAACTGA TCACAGGTAT AGGAGTACAA CAGCAGAATA
168051 GAAAGATACA GCCTCACATC CACACTGAGA AAGGTGAGGA TGAAAGATGA
168101 ATTCATGAGA AAGCCCGAGA AAAGTGACTT GCTTTATCAG AAAAATTTTA
168151 TGACCATTTG TCAGAGAGCA ACCTATTTGT GGCCAGCAGG GGTTTTGATG
168201 CTGCAACACA TTGTTTCTAC CATTCTGTTT GCAGTAAGCC ACTCTTTCCT
168251 CTTCTCCACG TGGCACAGCA AAACCAAGAG CACCTTTTCT TTCCCATGTT
168301 TTCTCCCCTT TGAAACTCTA CTCCCTCTTA CTAAACAGGA TCTTGCAGCA
168351 GATACCATAG AGTGTCCACA CAGTTTGGGC ACCCTTTTGT AATTTTCCTG
168401 TATTTTTGCC CAATCTTTGT AGTTTGTAGT ACAGTAATTA TTGCTATTAA
168451 CTGCTTTCTT ACCTCTCCTA AATATTCAGC CCAACAGGTA ACAGCAGTTT
168501 CAGATATGTA GCAGGAACAT TTCTTAACCA CATAACTAAA CATAATAGCA
168551 TTCGATAGAT TTCTGAAGAA AGAAAATGAG ATTGATATTC CAGGTAGGAA
168601 AAATGTGCAC ACTTAGAGAG AGAGCATGTG AAAAAAGATA GGTATACATG
168651 TCACTCCTGA AACCTTGTCC TGTGTATGTA TCAGTCACAT TCAAAGTGAA
168701 TAGCACCATA AAAATTTAGT TCTAGTTCTA GATATGGTTT TGTACTCCTC
168751 ATACAAATGC TTTTGCACAT AGGTTGACTG CATGCTGATA ACTGGTTTAC
168801 TTTCCAGTGT CATAACTGTG AGCAGAGGGC ACTCCTAAGG CAATTCTGAG
168851 TAACCAAACA TGTACTAGAA AATATATACA ATGATTGCAA AGGAAACTGA
168901 TCAATGCATT TCATCCAAGC CACGCAGATA AAAACTGGAA TTGCTAATTA
168951 CATTGGTTAA AATAAAATGC CTGTGTACAG ATAACTGTCT TGCATTATAT
169001 CTTTACTGAT CTGATTCCAT ATAACATGCT ACTTCGACTC TCTACTACAA
169051 AACAACAAGC AGTTTCAGTA AATCAAATAA TTACAAGCAG AACTTCCAAG
169101 CAGCTTGGCA GCTTTTCGTG AGTGGCCCAA ACTCCCTCCC TTCATAGAAG
169151 ATAATAAGCT TGGCACAGTG CAGGGCCTGT AGGTTATCTA AAGCATCTTC
169201 ACCTCCTCTG CTAGGAGGAA ATGCATTCTC TTAAAGCACC ACCCACCAGT
169251 TCGAATAAGT ACCATGCTCA CGTAGACTTC ATCACTTGCT TTAGGTGACT
169301 GTGGGAATAC AGTCTGAGTC TCCTTGAGGA TCTGACTGCT GAGACATAAA
169351 AGGATTAAGG GTAAAATATC ACAACATAAG GGCTTTGTGT GACCTGACAA
169401 CCACAAGTAT TCAAATCTTT CCACTCTGAA ATTTGACAGC AGGATGAATG
169451 ACACTAACAG CCTACTTCTG TACTCCTTTT CAGCTAAATC TTTGAGATTA
169501 GTTTCTCTTA ATTCCCTAGT TCATAGAGTA AAAAGAAAAG GAAACTGTAA
169551 AATTATTTCA ACGTGTCCCT TGTCAATGCA CTGCAACTCT ATTCTTTTCT
169601 GCAATTCCTA CATACTTGCA GACAAAGATT GAGGAGGGCA CCACTGGGAA
169651 AAAGGCATAC CAGGCTTCAT GTTTCAGGAC ACACACCAAC TAACAGTGGT
169701 TTTGAATTGG CCTCTCTACC CTCATCTCTC TAATTCTGAA AGCCAGTGAC
169751 GGAGAGAAGA AATGGGAATA AATGAGGGAA CAGGCATATT AATACAAGAA
```

Fig. 1-65

```
 169801 GAGGATGTTG GGAAGAGAAG GGAGGTGCAA CCATTTCTAC ATTTCCAAAA
 169851 GTATTCGTTG CCTCACAGAC CGCCACAGAT CCTGACTGAA GAAACATCTT
 169901 AACTCTTCCC TCTCTCACAG GATTTCAGGT AGTGTAAATA TTCTTATCTA
 169951 AATAACCAGC TTTATTTTGA CAGTCTTAAA AATTCATATA AATTTTCCAG
 170001 AATGGAGAGG GTAAATGGTA ACTTAAATGT CATGCAGGGA AATGGAGCAC
 170051 TCAAGTCTTC ATACAAACTG CAGCCTTTAG GAAACACTG CACAAAGGGC
 170101 ACAGTGTTCA GGATGCACAT CCAGACTGGG CAAAACCTGT GCAGCACATA
 170151 GAGAGCACAA GAGTTTCCTC ACTTGCAGGC AGGGTGCCCT AATCACCAGG
 170201 CTACCAGCTG ATTTAGGATC AGAGGACTGA ACACAGAACG CAGATGATAA
 170251 TGCACTCCTA CTGATCCTGG AGTTGAACAC ACGTGACTGC ATGACTCCAT
 170301 AACACAGTGT TTTAGACAAT CAGCACTGTC CAAGCCACTG CTTTATTCGT
 170351 GTTAAATAAC TACTGGATCA GCACCCAGCC TTTTCCTTTC CTGAATGACC
 170401 AAAGTGGCTA TTAGACAGGC AGTGCTGATA CAAACACACA TGCTCTCTCA
 170451 AGCCCTAGAA ATGCTTGATT GCTGTGTGCA AATTCAGTTT TGACACGCTC
 170501 TGGCAATAGT GGAGATACTA GTTTGAAATT CTTTAAGCAA AAACATTCAG
 170551 CTGAGCCCAG TTCTCTAGTT ATGCTCTGGG AGTATCTGGC TGATCAGCTC
 170601 CTCCAGGCAC AGCAGTAAGA AATACCAGGC TTAAGGTAAA ATGCTTAAGG
 170651 TATGAGCTAG GCTGCAGGGC ATTCACCTCT GAAGCACACC TGAGAATGAT
 170701 CCAAAGCTGT TTTGGAGCAC TGGGAAGCTT TGATATCCAA ATTTAAGAAT
 170751 CCCAAAAGCT CCAGCTATCT CTAAGACTGA ACAGCAGCTG GTTTTGAGGA
 170801 CTGCTGCTTT TGATTCAGC ATGCAAATTG TGAGTGAAGC TGGACTGAAA
 170851 ATTCCACTCA TTCTCATTGA CCTAAGGCAA GTCTTTCACT TGATGCAATC
 170901 CTGCACCGAC AATGGAAATT TCTGCATTTA TCCTAATATT TGTCAACAGT
 170951 ACTAAATTCA TCTAAAATAT GTTAGTTAGA ACCACGAACC TATTCTGGAT
 171001 CCAGCTATGA AAAATTACTT TAACCCTGGG GTTTCTATGT TTTTGTTATT
 171051 ATCTTTGATT TTGTCCCATA AAGAGGGAAG CAGAAAGAGA ATGGGAAATC
 171101 TGCAGGTTCT GATAAACCAG CACGAAAGTA GAACAGAGCT GTTGCTTAAA
 171151 ATGGAACTG TTTGGAGTTG TATGTAAGAC ACAAGAGCTT ACTTGAAAAA
 171201 CAGTCATTAA CAAATCCAGC TACAGTTGAC AAATGCAGGC CTACGCTCAC
 171251 AAAGATCAAA TAACAATCTA CAGATCTCCA TCAGCCTTCT AAAGCATGTG
 171301 GCAAATGGCA TGAATTCGCA ATAGTTCTTT CAGCAGAAAA TAATGCAGTT
 171351 TAAGGAAGTA GGAATAAAAG CTCAGCGCAG CACAGTGGGA AATATTTCTA
 171401 TTTCGCTCCC TCAGAATGGA AGGATAATTC TAAGAAACTT AAGTAAATGC
 171451 TTTTTAAGAA CAAGTTTGGT TTGGGAAAAC GTTCCTAAAA TAGTGTTTGT
 171501 CTGATGATGA ATAAGCGAAA CGGCTGAAAC AAGAATATAA GCATTTAACA
 171551 GTGATGGGAA AGGGAGAAAT AGCGTAGGTC TTAAAAAGGG ACTTGCTATC
                                                    Z1 exon 1
 171601 TGACTGTACG TGGCGTTTTG GCCATTACAG AGCCATCCCA TCAGCGTGTG
 171651 TACAAGGGTG CAGGCAATCT CCTACCAGCA ACTTCCCATT TTGTTAGATG
 171701 TTGTGAAGAT GCAGTCATCA CCTCCCTCTG CTAATCATTC GTCTCAGGCT
 171751 GTATTGATGG AGTGTCTTTC AGCATCAACC AACAGCTTCA CCCTGGACCT
 171801 TTACAAAAAG CTGGATGTAA CTTCCAAAGG ACAAAACATT TTCTTTGCTC
 171851 CTTGGAGTAT TGCAACTGCT CTCGCTATGG TCTATCTGGG TGCAAAAGGT
 171901 GACACAGCAA CCCAGATGGC TAAGGTAAGT CTGAACTTA GCAGTGTATC
 171951 ACTTAAAGCT GGCTCCCACG TGACTTGCAT TATTCACCTG CCTACGTGGA
 172001 ACAAAAGGA GCAACATGAG AGAACAGTGA TCCGCCATCA TGTTGGGTGC
 172051 AAGAAAAAAC ACTGCATGCA GTCCTGCAGG ACACTGTTGT TCCAACTTAT
 172101 TTCCAAGAGC CCCCTTCTCT GCTACCACCT CTACCTTTAG CTTAAAATTG
 172151 TTCTGGCAGA GTGAAGCTAT GGACATTAGA GACTGTCTTC TCATTCTCCA
 172201 CACCCAGTTA GTAAGTCCTC TGAACCCAAG CTTGGCTGCA CAGCAGCAGC
 172251 AGCAACATCT TTGCTTGTGA CATGGTTAGT CCATAAATAA GGTAATACAC
 172301 CCATGAAGAA GGGAAGGTTT AGATTGGATG TCAGGCGGAA GTTTTTCACA
 172351 GAGAATGGTG AGGTGCTGGA ACAGGCTGCC CACAGAGGCT GTGGATGCCC
 172401 CTTCCCTGGA GGTGTTCAAG GCCAGGTTGG ATGTGGCCCT GGGCAGCCCG
```

Fig. 1-66

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.172451 GTCTAGTATT AAATGTGGAG GTTGGTGGCC CTGCCTATGG AAAGGGATTG
 172501 GAGCTTCATG ATCCTTGGGG TCCCTTCCAA CCCAAGCCAC TCTACGATTC
 172551 TATGAATAAT GGGGATATAC TAGAAATGAA AATATGATAT CATTTATAAC
 172601 CACTTTTGCA AAACTTTCGG TGATGTACTC CTAGATTATA TGCATTTACA
 172651 TAAATGCATT TATCTGTGTA ATGTACTGTA GAGTTGTACA TTGGTGCCTC
 172701 AATAGTAAGA CTACAAACCA TCCTATGTTG TTTGTTCTGC CTGATAACAA
 172751 TCTGAAAATA AATTCCACAT TGCTAAGCAT GAATTGACCA TTTCTCCAAA
 172801 TCAATCCATG TCTGAGCAAT CACATTGATC TGTTATTAAG TAGTAAATGA
 172851 CTAAAATTAA TATAACTATG ATACGGTTAT AGAATCTAAA TCTAGACCGA
 172901 GGTCTTGTTC TCTATAACTT TAATAGACTA ACATTTGTAC GATGGCTAAA
 172951 TTATCCTAAG TAGAAAACTA ACATCATTAC GTAACACTAG AGCACTTCTA
 173001 TCTTCACAAA ACAAACTGTC CTTAAGAAAA TTTATCACTG CCACAGGTTC
 173051 TTCATTTTAA CCAGACTGCA AGAGAAGAAA GTCCTTCTGA GATGACAGCA
 173101 CCTTCTCTGC GGAGCCCAAA GAGAAGAGAC ATGGTATTTA TTTTGACAAG
 173151 GCTCACAGAA ACAAATCTCG GAGAATGGGA CAGCACAACT GCCTTAACCC
 173201 TCTGAAATTT GTCTGTCTAT ACCTACTGTC CTATTGCAGT AAGAACTATA
 173251 CATAAAAAAT GTGAACAAGC AGGTAATATT ACTGTAAAAC TCACGAACTC
 173301 AGAACTTCAA AGCAGAACAG AGACACCAGA AGCATTCTGA TTGTCTTTTA
 173351 CACTTTGTTA CTTGCTTTTA GCTGCTCTAT GGCAATAGGA ATACCTAATA
 173401 TTTTACTAAC TTCAGGATTT TTTTTTTTTT CTGGGCTGTA AAACAGCCAT
 173451 TGCCTTCACA TCTGACTCCA GTCCTGCTCT CTTAAACTCT GTTCCACCTT
 173501 TGCTATGCAT GCACACATCA GGCAAACAAA ATTCCCTGT AAGCTAACAC
 173551 ACACTGATTC ACCCTTGCTC ATCAGCTCCC CAGAGACTTG ACAGCAGGAG
 173601 GAACTGCACA GAACTCCTTA CGCCTCAAAG GTCTGTCAAC TCAAACAAGC
 173651 TGCAATTCTT TAGCACAGAA ACTAAGAAAG CTCAAAGAAA CCAAGTTAGA
 173701 AAAACTGGAA ATAAAAAGGA GCAGTTACAT CATTCTCCAT CTAGATGGCC
 173751 GTGGATTAAT ATTTAAGATA AATCATTATG TCCACATTGA TTTTAGCTAT
 173801 TCACTGCCTT TCTAAGTTGC ACAGCAAGGT CTGCCTGATG TAGCCTTCCA
 173851 GACATTTCTC TCCATTACCT CTTCACTATG TACCCATTGC CTTGCAAAAC
 173901 CTATCTACTA TCCTGTTCTC TACCAAGTTC TTCCCCACAT GTCCTTTCTG
 173951 AAAGCCTGTA CCTCTGCCTG TGTGAAAAAA TACCAGAGGA AGGAATGCCT
 174001 CCTCACCAAT CTTATGACAA GCCCCCATGC ATCAGCAGCA AAGAATCTCG
 174051 GTGTCTCACA TGTAGCGCAT GGTACATGCC ATGGAGCAGG AAATTATACT
 174101 GAAGCAGCTT ATCCCTACAC TACGAAAGCA ACAGCTGACA AGCAAGCTCC
 174151 TGCTCCCTAA AACCATCACC AAGGACATTC TGGACAGGTT CCTTCCAACA
 174201 TCCAAGCAGT AACAGCAAAA TTCACATCAA ATAGAAAATT CGAATCAACT
 174251 CAATTACATG ACATCAGTAT CTGTCTGAAC AGAGTAGCTC CTCAAAAGCT
 174301 GCAATGTTGC CTTAATGATT TTTGTGATAA TCAAAATTAG GCTTGACTGT
 174351 GACTGGAATG AGATGACCCA ATATCCTGGG TGCACCATCT GAGGACAGCT
 174401 GATGTCCTCA AAGGTGTAAG CAGCTCCGCA GAATCAAATC ATAACCCCAC
 174451 AGACATAAAA CAATGTATCC AGTTACACAC AGTGCTGCAA AAGTACCAGA
 174501 TACCCGAAGA AGAGCTCCAT CCCTGCACAC ACTTTTTAAA TTAAAATGAC
 174551 CTGGGGATTT TAAATAACCA TAGAAAGTGT AATGCTTCAG CCAAAAATAT
                                               Z1 gene exon 2
 174601 TTCAATACTA ATTGGTGCCT CTTTCCAAGG GTCTTGAGTA TGAGGAAACT
 174651 GAAAACATCC ACTCCGGCTT CAAAGAACTC CTGTCTGCCA TCAGCAAACC
 174701 TAGAAACACT TACTTGCTGA AAAGTGCTAA CCAACTGTTT GAGGACAAAA
 174751 CCTACCCATT ACTGCCTGTG AGTTGAACGT TTCTGCTTAA GAATGTTTTG
 174801 ACAAAGAGTA TTTGACGTAC ATATTTGACA ATCATAATTT TCCAAATGTT
 174851 CTGCCTTTTA AATCTACTGC AGCCTTTAAA ACTGTAAGAG TTCTACAGTT
 174901 GAACTACAGA AAGCTCCTGT CTCTTTTGAG CCTATTTCTT GTTAGCATCA
 174951 CTGTTGGTTC ACTTCTCCTC TAAAGGAAGC TTCTCCATAT CAGTGGTCAT
 175001 CTTCCTCCCC CTTCTCACTA TCTATTACAT TCTAGCATTT CTGAGATTGG
 175051 AGGCCAGAGC TATATAGAAA AGTCACACCA TACCTTTACA GAGCGGCATA
```

Fig. 1-67

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 175101 TTAACGTTCT CCCTTTTATT ACACTGTCAT TTCCTTCAAC TTTTCACATC
 175151 ATATTTGCTT GTTTGACTAT TACTGGGCAG ATTATTTTTT TTTTTCATGC
 175201 AACTGTCCAT TAGAACTTCA ATACCTCTTT TCTAAAGCAA TAATCATCCT
 175251 TATTAGTATG CTTTGCTGGA TCATTTTCAG ATGTTTCAAT ATTGATACTG
 175301 TAATCTATTT CCTTCTTCTC TTAGTTTCTA GCCTTTTAAA CAAGATCTTT
 175351 CTCTGTAGTC CCACGGATAC TCAGCTTCTT CAAAAGCCTT TGGTGAGAAG
 175401 TCTTCCAAAA TGCCTTTTGG CAATCCTAAT TGGCTGTAGT GGTTTGACCT
 175451 TCTCATTTGC AAGCTTCTTT ACACCTTCAA AAACCTCCAA AAGATTCATG
 175501 ATGTAGGACT TATTGTTACA AAATGCTGTT CCAACACATC ATGCTTACCT
 175551 ACGTGCCCAG TAGGCCTGCT TATCCATTTG CCCTGTACAG ACTCATGAGC
 175601 TTGTAATTCT GTGTATCTTT GAAATCTTTT TAAGAAATGG CACTGTATTA
 175651 ATCATCCTCC AGTTTCTTGG AAGGTGCTGT TAAATGAGGT TAGCGTTCTT
 175701 TCATCTTGGA GTTAAGTTTC AGTCTCCTGA GTAATTTCTC AGTCATTAAA
 175751 TTCAATCAGC CTTACTGAAT GCTTGTTGCT CATGTTCTGC ATAATTTTGT
 175801 GTAACCGTGG TTTAAGACTA ATCAGGGAAT TTCCTGCCGG GAATCTCCAT
 175851 GAACAGTTTC ATAGAAGACA GTAATGTAAA AGTCAGTTCT AGTTTATTCT
 175901 ACCATAACAT TCCCTTCATA TCTGACCCTC TACTGACCTC ACAAACTCTT
 175951 GGCAGCTTGA CTCTGAAGCA AATCTTAAAA CATTGTTTCA ACTGTCCTTG
 176001 AAGCTATTCT TTCTTCTTGT ACTGAACTCT GTCATAAAAC ATAAAAATGT
 176051 ACTTCAAGTC AGTCTGAGAA ATCAAAATA ATTTAAAAAA ATGTGTAGAA
 176101 TGTTTATCTC ATAGGATTTC AAAATTACAA ATTTGCATGT TGGATTTAAA
 176151 ACACAAAACT TTCAAGCATC ATTTTTTGTG AAACACAAAT ACTGAATTTT
 176201 TGATCAGTCC TTGCTTATTA TTTAACACAG AATCATAATC ACAGAATCAT
 176251 AGAATGGCCT GGGTTGAAAA GGACCACAAT GATCATCGAG TTTCAACCCC
 176301 TCTGCTATAT GCAGGGTCAA CAACCAGCAG ACCAGGCTGC CCAGAGCCAC
 176351 ATCCAGCCTG GCCTGGAATG CCTCCAGGGA TGGGCATCCA CAACCTCCTT
 176401 GGGCAACCTG TTCCAGTGTG TCACCACCCT CTGTGTGAAA AACTTCCTCC
 176451 TAATATCTAA CCTAAACCTC CCCTGTCTCA GTTTAAAAAC CATTCCCCCT
 176501 TGTCCTATCA CTGTCCACCC TCATAAACAG TCATTCCCCC TCCAGTTTAT
 176551 ACACTCCTTT CAAATATTGG AAGGCCACAA TGAGGTCTCC CTGGAGCTTT
 176601 CTCTTCTCCA AGCTAAACAA GTCCAGTCCC CTCAACCCTT CTTCATAGGA
 176651 GAGGTGCTCC AGCCCTCTGA TCATCTTAGC AGCCATCATC ACAGAATGTA
 176701 TCAGAATTTG TTTTACGGGT TATCTAGTTT CAAATGAATT ACATTTTCTT
 176751 CCAGTATGTA TTAGTATGTA TTGCATGATC TGTTGAGATG ATCTTTTTCT
 176801 ACTATTTTTG TGCTTAAATT TAACTATATA AGCATACATT TTCCAATTCT
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                              Z1 gene exon 3
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 176851 ATCCTTCAGA AATTTTTACA ACTGATCACA AGGTACTACC AAGCAAAGCC
 176901 ACAAGCTGTA AACTTTAAGA CAGATGCGGA ACAAGCCAGA GCACAGATCA
 176951 ATTCCTGGGT TGAAAACGAA ACTGAGAGTA AGTATCGCTC TGATGGCTTT
 177001 TTCTTTTCTC ACTTCAAAAT CATTTGCATT TCCACTTGAA TTGCTCTTGC
 177051 AGTAAGGGAT CCATAAAGGA TGGAAACTGT GGGGAAATGA TGAACAAATT
 177101 GCAGTTAAAT GTCTTGAAGA AAGCCAACCA CCAAAACTAA CTGCTGCCCC
 177151 TTGCAAAGTT TTTCCCTTGA TTTTTCATGT CATAGTCTCT TCTGAAGTAT
 177201 TTCTGTTCAT AAGGAAGCAG AGTGGATACT ACATGGCTCC ACTCTGATCA
 177251 GTGAAGGTTT TACTTCTGCA AGCTTCAACT GGTTGCAGCC AACTCCAGAG
 177301 AACTTCCACG CTTTACACAC TTCTTAACAT CTTTTACTAC TAAAACTGAA
 177351 ATAAATATGG TTTAAAAAAC AGTGATGCTT CAAAAGCCAT TTATGTATGT
 177401 ACGCTGTGAA AAATGCACAG GGAAAAAAAA TCTCTGAGTG TAAACACTTT
 177451 TGTTAGATAG CTAGGCATAG AGAAAGCACA TCTGAAATTG GTGAGTTGTG
 177501 CATTCGCAGC GAATTAACAG TCCTATCTAT TTGATTTTTA AGGGAAGATC
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                              Z1 gene exon 4
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 177551 CAGAATCTGC TACCTGCAGG ATCTCTTGAT TCTGACACTG TATTGGTCTT
 177601 AGTAAATGCT ATTTACTTCA AAGGAAACTG GGAAAGAGG TTTCTGGAAA
 177651 AAGACACATC CGAGATGCCC TTCAGATTAA GCAAGGTAAA TTCCTTCAAA
```

Fig. 1-68

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177701 ATGTCTATTA TGGCAGAGCA AGAATCCTCT AAATATTTCA CCTGCATTTC
177751 ACATCCCAGT ACAACACTAC TTACAGCAGT AGCAGATGGT ATAAACTCTG
177801 AGAACAGCAA CAGTGAAAAT AAATCAGCAG TCTCATTTAT ACAGATGCAT
177851 GAGATTAGGA TTTTCAGTTA AGTTAGTAGC TTCTTGGCAC CAAAACAGTT
177901 GAAAACACCA TGGTTAAGCA GCTTAAGGAC AAGAGAAAGT TTCTCTAAGT
177951 ACTGAGATAT CATTTTCAGA AGGAATTGAG CTAATTCTGA GAGCAGTACT
178001 TCGACACCTA GGTCTCTTTT CATGCTTTTC AGACAGAGGC TGTATAATGT
178051 GAGCTCAAGT AGCCTAAGTG TTCTTTCCTA ATGCCCTGGC CATTGCGTAA
178101 AACCTCACGT GGAATTCTCA AGAGGGTTTG TCATTTTAGC CAGATGCGTA
178151 TGGATGATGT GTTCAGCATG CATTGTGGGC ACGACTGAGC TTACAGTATC
178201 TCAGTGATTG TGCATGGACA ATTTACAGTA GCTGACAGCA TGCATACTTT
178251 CGGCTTGTGT CAAAGGTGAG CAAAAGAAT TTTCATTCAG AACACGTTGT
178301 TTGACATGAG ATTACGAGTG CAAACACCTT TTGTATGTCT GGTGATGTGA
178351 AGCAATTGTG TCGATACTGT GGCTGTGTTA TCTGAAACCT ACTACATTGC
178401 ATGCGCAGTT TTAGGACCTG TAATAGTACA CGGTGCACAG AAAGGGTTTC
178451 ATTCACAGAG TGGCTGATAG CAAAGCCTGC AAACAGATAA GCTTTTGCAC
178501 TTGTGTAACA ATGGAAAAGA GAGAGTGGAT ATATCAGTGA AGGTCTCTGA
178551 GCATAATACA GCGTAAGAGT TCAGATGATT ACTGTCTAAC GCGATTTCAG
178601 TTGGTAATCC AAACCTCTAC AGTTTGGGAA AGAGAAAAAA CAAGCAGAGG
178651 TCACAGCAAA TATGGTCCAT AGGTAAATTC AATCAATCAG TGCTGTCCGG
178701 AAGCATACAA AAGAGTTGAT GACATCCAGA GAATGAAAGT CAGCATTTTT
178751 TTCCCCTCCC AATCAACACA TTCACTCAAG AAATGTAAAG TTTTGGGGAA
178801 AACTTGAAAC ATACAAAGTA GTTTCTTGTT TACCAAAGCT AACTCTTTCA
178851 AAAGAGTGAG AAATACATTG CATGTAATTA TGTTATCAGG TGGTGTCTGT
178901 GCTTTTTTTT TCTTTTTTTT CTTTTCTTCT GAAGATCCCT TTGACTTTGA
178951 AACAGGAGAA ATGGCACTGG GAAAGAATAA TGCCAAGTCT TATACTTGTT
179001 TACAATTTTT TTTTGCCTTC AGTTCAACAA AGCAAGTAAT CTTTACCATT
179051 CACCTTAAGG AATAAGTACA ACTAATCTTT TTCTTTTCTG TTCTTTTTTA
                                 Z1 gene exon 5
179101 ACATCTGAAT CATTTCACAG ACCAAGACTA AAGCAGTACA GATGATGTTT
179151 CTCAGAGATA CATTTTTGAT GCTCCATGAA CAAACAATGA AATTCAAAAT
179201 TATTGAGCTG CCGTACGCGG AAAATGAACT CAGCATGTTC GTACTCCTAC
179251 CAGATGACAT CAGTGATAAC ACTACTGGTC TGGAGCTGGT AAAACTGACA
179301 TACTGCATCA CACGCACTAC AAAGCACTAA CAGAAATAGA TGAAAACAGT
179351 GAGGAAGAAT GAACTTCAAA TGACACAATG ACTGCTCAGC CTAGGTTTCA
179401 GGGCATCTAT TAATGATGCA AAAATACAAA TCTACCTGAG GATACACCTA
179451 AAAAAGTATG CCCACTCTAC TCTCTTAGCC TATTCGGTGC CTCCTTTTCT
179501 ACCTCCAGAA TAGCAGAATA ACGAAAGCAA GAATCAAATC TAAACCACTG
179551 TGCCCCAGAA TTAATCTTCT GAGGGCAACA CTAACCAGTT TTATGTCATC
179601 CGCAGTCCAG ATTTCCACCT GATACTTTGT AACGAGGCTT TTCAAACTCG
179651 GGGCTGACTT ACCTTGACCC ATGAGGTATC AGCAGCCACT CATGACCGTG
179701 CCAGGATTAG TTCCTGAATC TAAATACATC AGAGCTTCAG AATCTAAATA
179751 CATCAGGGCA AATATCTTTT TATTTGCTCT TGAGGTCCCA TGCATTCCAC
179801 TTACTTACCA CTACTAAGAG AAATGCCTTA CAAATTCACA CATACCAAGC
179851 ACTTATTAAT GTGGTTAAGT TGGACACTGC ATAAAAGCAA CACTTCTCAT
179901 ATCCACCTCC AAAATAATGA ATTATTCTGA AGGTTCACTC TACACCTCAC
179951 TGCATTTAAG GAAACAGATA GAAGTACAGG TCACTCAGCA CTATGCAGGA
180001 TCACATCCTA AGAATATGCA GCACATTTCA GCTGTACTCA CAGCTGGTAG
180051 TTGGACCTTT TAAATCTAGA GCATTAGACA CCAATGTATG CATGCCTTCT
180101 TTTTTCTGTT GCATTATGAC TATATTCTTA TAAAATTCAT TGCAGGTAGA
                                 Z1 gene exon 6
180151 AAGAGAGCTG ACCCACGAAA AATTAGCTGA ATGGTCCAAC TCAGCCCGTA
180201 TGATGAAAGT CGAAGTGGAA CTGTACCTGC CCAAGTTGAA GATTGAAGAA
180251 AATTATGATC TTACATCCAC TTTGAGCAAC ATGGGGATAC AAAATGCTTT
```

Fig. 1-69

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180301 TGACCCTGTT CAGGCTGATT TCACAAGGAT GTCAGCAAAG AAGGACTTCT
180351 TCCTATCAAA AGTTATTCAC AAAGCTTTTG TGGAGGTCAA TGAAGAAGGT
180401 ACCGAGGCAG CAGCTGCCAC AGGTGTCCTG GTGTTGAGGT CAAGAACACC
180451 TAGAGTAACT TTCAAAGCCG ACCACCCTTT TCTCTTCTTC ATCAGACACA
180501 ACAAATCCAA AACCATCCTC TTCTTTGGCA GACTATGCTC ACCTTAGTCA
180551 GAGTCACTCC CTGCTCTACA GAGCAGGAGA TGCTGGCTTG CCAGCTCAAG
180601 GGCAGAGCTT GATACTCCTG CTGCAGCTGA GGGACTAAGA CCTGCACTCT
180651 TTCAGACTAC ACATTCCACA GCCCAAGGCA AAGCTTCAAC TACTCCAGAT
180701 AGCCATAGCA GTGCCTGTAG ATGCATTTGA TTCCTTCCTC TTGCAGCAGT
180751 AGATACAAAC ACATGGCACT ATCTTCGTTC TCACAAGTAG AGCACCTGAT
180801 TCAGGTGTGC ATCTTCACCC TTCCACCCTG CCATAATTAG CCCCTGCTCC
180851 TCTGTAGCTC TTGACTAGTT CTTTTTGTTA CAGAGGCACA CACAGCCCAA
180901 GCTTAAGTCT TTACCAGTTC ACTTCCATTC TACTGATTGC CTGAAAGACA
180951 TAACAAGCAC ACACTCCCAC GTGGGCTATT TCCTCGCACG GAGTTACAGG
181001 TGTGACAGAA GAGCCTGACC CATGCTGCTG ACTTTATACA AAGCAGCACC
181051 TGCTTCAAAA ATAGCAGTAC TGATAATAAA CAACCCCTCG TAGCTTGATG
181101 GTGCTTTCTG TCAGCTCTAC CAGGAGGGGA AGGCAGAAGG GGAAATCAAG
181151 CAGCGACAAG AGGCTCGCGG AGGTAGCGAC CTCCGAGCTA AAATGGCCGC
181201 CTCCCACTGC TGCAGCGAGT GCTCAGGGCC GCTTTCCGCA GCTGAGCTCC
181251 AGCCCTCTCC CCCACGATGG GCGGCCCGTG GCTAGGCAAA AACTTCCGGG
181301 AGGAGGGCGG GGCAGAGGCC AGGGGAAAGC TGGTGCTCGG CTGGGTGAGT
181351 GTGGAGGGTC TGTGTTGTTG TTTTCTGCGG GAAACACGCA TTGGTTTTTT
181401 GAGGGGAGAC GGTAGCGTTT CCCTCGCGGC GGCGCTCTGA GCGGTTTCGG
181451 CGGGCGCGGC CGCCGGGCGT TGACCGGGTG CTGGAGGCGG GAGGGGCCCC
181501 GCAGAGTTCC GCACCGCTGG AATCCATCCC TGTCATCCAG CCCTGCCTCT
181551 GTGGGTTTTG TGGCAAACAG GCGGAAATCG ATGGAGAGGT GCGAGCTTCA
181601 GCCTGTTCTG AGTCACAGGG AGAGAGCTTG GCCAATTGTC CTGCGCCCAG
181651 CCTTATTGGA GCTGTAAGGT GCACGGGATT AAATCGCTCC TGCTTCAGGC
181701 AGAATGGAAG GACTGTTTCA GTCCAAGTTT TCTTTTCATC AGTGTTTTTA
181751 TGGCTATGGG CAGAAGGAAA CATGAGTACA GCTGCAGCTG TTGAACGTAG
181801 CCAAGCTCCT ACCAAGAATT TGTCTTAGAG GAAACATGCC TGAGGAAACT
181851 TGCTGCTACC GCTTGTTTGA GATGATGAAT CATTAATACA AAGTAGGCGT
181901 TGGCTCTGTA TTTTCTAGCA ACGTACCAAC ACCAGGCACT GCCTTAGGGG
181951 AAAAAAAACA AACCACCTTT ACTACTAGTT GATATCCTGC GATGTCTGCT
182001 GGCACTTATC TGTAACTTAC TCCACGTTCT GGCACTCGTT GCTCCTTCCT
182051 GTAGGTATGT AGTATAACTT CGGATTAGTT AGCTACCTGC TCGGCTGACG
182101 TATGTGAAGT CTGACAAGCA CTGAGCTACG TATGTGCCAT GAAGTTCCCA
182151 ATAAACCGTT TACTTTATTG CGTCTGTTTC CATCGTGTAG ACAATAAAAG
182201 GCAAACTGCA GTGGACTTTG ATTTTGTACC ACAGCAGGAA ACCCCAGTAA
182251 TCTGTAATGC TGACCAGATA AATTTCGTTT GAATATTGTA GATCGAGTCA
182301 TTCAGTTGGA TTCTGGCAGA CTGACTGCTA GGTCTAGAAC ACAAGTGAAG
182351 TAATCTTGAA GGGAATACTG AAGACACACA GACTTTGAGA AGGTGAGTTT
182401 ATAATTCTGC CATTCTGATA CCTTTCTGCT TTGGTTTTCC TGTAAAGCAA
182451 ATAACTGTCT CTGTGGAGCC AAAGGAGACT TATTCTACCA AGTCCTAGTA
182501 TGCTCATCTC AAAAAATATA GTATTATTTA CTCCATGAAG AAGACCAATG
182551 ACTTTTCCTC ACTACAAGAA AGACATTGAG GTCTTGGAGT GTTTCCAGAG
182601 AAGGGCAAGA AAGCCGTGAA GGGTCTGGAG CACAAGTCTT ACTATTGAGT
182651 GGCTGAGGGG CTGGGATTG TACAGCCTGA AGAAGAGGAG GCTCAGAGGA
182701 GACTTTATCA CTCTGTACAG TGACCTGAAA GGAGGTTGTA GTTGGCCTCT
182751 TTTCCTGGGT AACAGCAATA GGATGAGAGG GGATGGTCTC AAGTTGTGTC
182801 AAAGGAGGTT CAGATGGGAT ATTATGAACA ATTTATTTTC CGAGTGGTGA
182851 GGCACTGGCA CAGACTGCCC AGGAAGGTGG TGGAGTCACG TCTCTGGAGG
182901 CATTTAAGAA ACATGTAAAT ATGGCACTGA GGGATGTGGG TTAGTGGACA
182951 TGGTGGGAAT GGGTTGACAG TTGTACTAGA TGATCTTATA TTTGCTTTAT
```

Fig. 1-70

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183001 GGTTTATATT GAGAAATGTA AAAGACAGAA ATAGGTTGTC AGTTTGTGAT
183051 CAAATAAATT TAAGCCAATC TTCATTTTTT TTTTTCTCCT AGGCTTTGAA
183101 CCATGGATAG CCTCAGTGCA GCAAATTCCA CTTTTGCTCT TGACCTTTTA
183151 AATGAGCTGC GTGAGAAAG CAGCACAAAG AATCTATTCT TTTCTCCTTT
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Z2 gene exon 1

```
183201 TAGTATTTCT TCTGCTTTGT CTATGATTTT ACTGGGTTCA AAAGGGGACA
183251 CTGAAGCCCA GATAGCAAAG GTATGTATCC AAACGTAATG TATTGGATTT
183301 GATGCATATA TCATCTACTT AATGATATAT GAACTACAGA TCTGAGATCT
183351 GTATTACAGT CTGTGACCTC TAATTGCTGA ATTGTTACAG TCATTCTGGC
183401 CTCAGAGGTC AGAAGTCTTC CTTAGGTATG TACATAAGCA GAACCTATTT
183451 CTATTGAGTT TATGTATAGG ACTTACTGCA GTGTGAAATT AAGAGATTCC
183501 TGTTTTTTGG GGTGTGTGTG GGTTTTGTT TGTGATACGG AGATCTTCCT
183551 TTTATATGTC ATTAACAGGC ACCTGGAATT TCTTTTTTTT TTTACTTACA
183601 TATTTGTATA TTTAGAGCTA TAGATGAATC TCCAGTTACA TAAAATAATT
183651 TACTCTGTAA TCTTTTTGGG CTTAATATCA GACTTTGCAT ACTTCAAAAA
183701 TGTAGCCAGA TAATCAAGGG AAAAAAAATC CAACATACAA GCATGTCATG
183751 TTAAACAGTC CCAGATTTTA GGAAACAAAC AAAAAAATGA TCAGTTGCTT
183801 GTTCAGTGTA ATAGCTTTTG TTTTCACAAC CTGTAATCTC AATCCTGGAA
183851 CATCCAGAAG AAAGAAGTGA TACAGGGCTA AGAACATAGC TCTGAAGTTC
183901 CAGAGAATAC CCCAGCAAAG ATTCAATGGG GCAAAGCTGC GTGGCCAGTG
183951 AAGAGTAAAA TTCATAATGT AAACTTGCAA TTAAATTACC AGGAGAGCAG
184001 TTAAGGAGTG CAGTGGTGGG CCTGTTGTGT GACAGTAGGG TCAAATCTAT
184051 CATTAACTGC AGTGCAGTTT ATTCTACGTT CACTAAGGTG CGTGCCTGCC
184101 TCTCTCTTTC TGGTATTGTA ATTTGGAGTA GATCATCAAT ACTTTTTCAT
184151 TTGTAGCTAT GGTAGTAGTG ATGAGGCTGA ATGAGGATGA AGCTGATGTG
184201 TTGTTTTAAT GGGAATTTAA ATATTTGCTT GTGTTGACAT CGGCTCCAGC
184251 AGCCTATTTC CTGTTATCGC TTGAAGGATC GGGTTTGCAT CTAAGGTATT
184301 AAATAAGATG CTTTGGTGCT ATTATAATCA GTGTGAAAAA TTATGGAAAG
184351 TTGTTTTTTT TTATTTAATC TTCAGGCTCC TTTGTTTCTG GATTTTAACA
184401 GTTTTGCTAG GTTTTATAGG GTGGAGATTA TAAATCCTCA GTTCTCTAAG
184451 AAGTACTGTG TACAGCATTA AGAAAAGGGC AGAATGTGTC TGCACTCAGA
184501 CTTCTTTGGA GGCTGGATGG GTTCCTTAGA AAGCAGGGAG ATAAACCAGG
184551 TAACCTCCAT AGCTTCCTTC CAACCTCAAC CATTGTGTGA TCCTCTAATG
184601 CTTGGACAAA ATGAAGATAA ATACCACTCA CTTTTCAGCA ACGTAATTTC
184651 TTGCTTATAC AACATCTGTG TGGATACATT GTACGTGACT TGTGTAATGA
184701 AAAATCTGCT GGCTTCAAGT CTCAAAACTC ATTTAAAAAC AGAACAATTG
184751 TGCTGATGCA AGTGTGTCAG AGATTACGTG GACTCCACAG AAGGTATTTG
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Z2 gene exon 2

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184801 TCTCTCTGCA GGTGCTTTCT TTGAACAAAG CTGAGGATGC TCACAATGGG
184851 TATCAGTCGC TTCTCTCTGA AATTAACAAC CCTGACACCA AATACATCCT
184901 CAGAACTGCT AACCGACTTT ATGGAGAAAA GACATTTGAG TTTCTCTCAG
184951 TAAGTAAACA TTAAATTTGG GTGTTGTGAA GTATAATGTA CTTGCTAGCT
185001 ATTCCCCTTG AAGGTTAGAT AAAGGCTTTG GGTTTTACTC TCCAAATTTT
185051 TCTAGGCTGA GACTTACAAC CTGAGAGTCT ATGCAAAAAG CAGGATGTGA
185101 ACAGAATGGA GAAGCTACTT TTAGATTATA TGAATGCACA ACTGGTGCAA
185151 GACCATGAAA AAAAACTAAA TCTTCTAGGT TTCTTGGTCC ACTTTTGGTG
185201 GGTTCTAGGA TCAAATGAAT GACAAATCTC CTTGCCTTTG ATAACCTGTA
185251 GCTATGATGA AAACAACTGT TACTGCTGTC CAGCATGGGC AGAACTTTTC
185301 TTTTTTCTTA ATTAAACAAT CCAGAGAACA TGCTGAGAGG AGTATGTGAC
185351 TCTTAATATT TTCCTTATAA GTATATATAC ACAAGAGGGC ACAGGTACGT
185401 TGCATATACA TTACATATAC ATTATAACAT TGTATGTTCT CTCACTCAAG
185451 CAAAAGAAC AAACGAAGA AACAAAAGA AACAACCCAG ACAATCATTT
185501 CTCAGTTGAG TACTGTAGAA TGTTCTGGTG TATTAAAGAA GACATTTGAC
185551 TTCTTAATAA CAAAGAGGAA GATAATTCCT AGCTCAGATG GCTAATAAAA
```

Fig. 1-71

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 185601 CAACTGATAA GAACATGTCA GACAAAACCT GAATGGCTTT ATATCAAGCT
 185651 GGGGGAAGAG AGGATATAGA TTTTTCTCAG TGTACTTAAA AACATCTGTG
 185701 GCTGAATGTC AGTAAAATGC ATTGCTAAAA AGCTGTTTTA AATGTTCATG
                        Z2 gene exon 3
 185751 GCAGTCATTT ATAGAATCGA GTCAGAAATT CTACCATGCT GGGCTAGAAC
 185801 AGACTGACTT CAAAAATGCT TCAGAGGATT CCAGAAAGCA AATAAATGGC
 185851 TGGGTGGAAG AGAAGACTGA AGGTGAGTGT TCTGCAGAAC TCCCTGCTGT
 185901 ATGTAATGTC AGCCAGGACT TGCATAAACA GCTCTGTCAA GGTGTAATAC
 185951 TGTCATTTTT AAAGCAAACA CAAACCTCAG CCATTGTGCT CTGTCTCTGG
 186001 TTGGGGCATA ATTCCCATAT CTGATCTATC GTTAATACAT ATTAGATACT
 186051 CTGTATTGCA ACAGTTGCTT ACGTACCACT GTTCAATTTG TGTTTTCTAA
                        Z2 gene exon 4
 186101 AGGTAAAAAT CAAAAATTGT TGGCAGAGGG AATTATTAAC TCAATGACCA
 186151 AACTTGTGTT GGTGAATGCC ATCTACTTCA AAGGCAACTG GGAAGAGAAG
                        MAR-like element
 186201 TTTGACAAAG AGCGCACAAA AGAAATGCCA TTTAAAATTA ACAAGGTACG
 186251 CTACGTTAAT ATGCTGACAA TACAAAGGTC TTTGTAATAC AGAAGACAAA
 186301 AATTGTTCAA GCAGATTTAC CTAAGGTAGT CTGCATGGAG CTCCCTATGC
 186351 CCTGTCCCCT TAGTATGAAC ACTCTCTTTG TTTAGTTTCT GTTAAGTTTC
 186401 ACATAATTAC TAAAAACTTT AATATCACAT ATTTATTTTA TACTCTCTCT
 186451 TTTTTTTCCT TTACTCTTTT TGTTTGTGTT TCAGTTGGTG AACTTGACTA
 186501 TGTCAGTGTA AAATCTGCAT GGGCAAAAAA CATTCATAGG TTCCAGGCAG
 186551 AAAAGAACTT CCGTGTGTGC AGAAATGTCT GAATATAGCA GTCATCTTCA
 186601 GTCAGAATGC TTTTCTTTCT GCTGTGTTTC TACCACTAAA TTGATAGAAA
 186651 TGAAATGAGG TGAAGAAAAA AAAACCACT CTCCTTTGAA GGCCTCCATG
 186701 CTTGACTTTC TTTTGCTTCT AAAAGTGCAG CAGGGCAATC GAGGAGGACT
 186751 TTATGTACTA TCATTAATAG GCTACGGCTG CCCCTTAGAG GTCAATTTCA
 186801 AACTCTGGAT GTCCACCCAG GTGTCGTGAG AGTGAACTGC TAATGTGAAT
 186851 TGCTTAAGAA CTCACCTGCT TAAAATAACC ACAATGCAAA ATTGAAGCTC
 186901 TAGTGCCTAA TTTCAAACTT CAGTGTTGAA ATATATACAG GAATGCTTGA
 186951 AACTGCTAAT ACCACTTTTC AAACAGGGAA TAATAATATT GCTCTTGCCA
 187001 TACTGTATGC TATAGCACTT AGAAACCACT GCACTGACTT GGTTCCTGTT
 187051 AGGAAGGGAG GTTTTTTATC AGTTTCCCAC AGAGATGTCA CACAAAACCC
 187101 AAGCTTACAT TCTGCTTAGA GTTTTTTCCT CTCCCTCCTC AGGAGGCAAA
 187151 TCCAGTGCTG TTTCTCTGGG TACGAGGCTC AGCCTAGTTC TGAGATTACC
 187201 CTTTCCTTTG CAGACACACA TTTATTTTTG AAGACTGCAG TTTTTGGGAT
 187251 GCAGATGGCT ATTGGAACAA GTTGTAAGAT GTGAGACTGG GGAATGCTGC
 187301 CTTGGCTCAT CAAGTAACAC GCTGTTAGAT GTGCAACCAC AAACCTCTTC
 187351 CCTTACAAAA CTAAGTGGCT TAAATTTCTA TTTTCATCCT ATTGATGACT
 187401 AGTCACTGAT GAGCTACAGA AGTCAATGAG TAGGCTCAAA TAAGCAATGA
 187451 AAAATCCAAA GGGCAAAGCT GAAGTTTTAA GCTAGTTATT TTACAGTCTG
 187501 TCCAGGAGTA GTTACTTAAA CATACCAGTA GTCTTCTGAG CATTCTGTGA
 187551 CATCTATTTT ATCTGTGACT TTTGCACTTT GTTGTGACTC ACTGGATGAT
 187601 TCTAGCATGC AGTGTGGGCT TTTCTTTGCT TATCCATCAT TTTCATGTGT
 187651 CACTGATTGC TGTTGCAAAA TCATTTCCGA CATATTCTGT TCTCAGAGTT
 187701 CATGGCAGTC ATTTATAGAA TTGAGTCAGA AATTCACTGT CTCAATGGTC
 187751 TTTCCTTTAA AAAGAAAAAA CGGTGAAGGT AAGGGGAAGA AGGGATTTAG
 187801 ACTCCACAGA AAAGGAGGAA AATAATGTAG ACAAAAGTAA CTGATGCTCC
 187851 ATGCAAAAAT GGAGAGAGAT GGGGGAGAAA CTGGTAGTAA GAAGACAAAA
 187901 GATTAACCTC TCCATGTGCC TTTTAACAAT TCAAAGTGAT GCTAATACTT
 187951 TCCTAGCATT TTTAGTGGCT TAGTAAAATA TTTTTGTTGC CCTACGTCAG
 188001 AGTAATTAGA GACACATGGA GTGAAATGAA AATATCGAAG TTGAAGTTAT
 188051 TTTGTATTTA TTTAAAGCAA GGAATACAGG CTCTGCTTAT TACCAACTTT
 188101 GTTTAGAGCT TGTCACTACT TCTAAAGTGA GCAAATATGT ATTCTTGCTC
```

Fig. 1-72

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188151 CTTTACCCTA AAGCAAATTT CACAGATATC TCCAATTAAC AATTAAATCT
188201 CAGGGATCCT TACTTCTCAT CTCTTGCTTT ACGAAAGAGT GACTGTGCTA
188251 TACTATGTTA TGCAGTGTAC TTAGTTCTCT GTGCAGTCAA ATAGTAAAAA
188301 GCCCTAAGTA ACTAGATGCC TGCTTCATGT ATTAGGACTG TCATGCCAGC
                                          Z2 gene exon 5
188351 CCAGTAGTAA CTCTTAGTGT CTCTTTCATT TTAGAATGAA ACCAAACCTG
188401 TGCAGATGAT GTTCAGAAAA GGTAAATACA ACATGACCTA TATTGGAGAC
188451 TTGGAGACCA AAATCCTTGA GATCCCTTAC ATTGGTAATG AACTCAGTAT
188501 GATCGTTCTA CTCCCTGATG CAATCCAGGA TGAATCTACT GGCTTGGAAA
188551 AGGTAAGTTA TTGAGCTCAG TGCAAAGACA GTTTGTGTCC TGCCTTGGAA
188601 GAGAGTTTGG TGCTGCACAT GGATTCACAG TTCAGTTTCA GAGCTATTAT
188651 ATCATTGATG CTCAAGACTG ACTGAAATGC TCCTTGTGTT TCTGCCCCTA
188701 AAGTGGCATG CCATCTATTA CTACTGGCCA AGCTATGTGC TGCTGTGCTA
188751 AGAGGCTCTG AAAGAGGCCT CATCAGAAGC TGTAGTTATG GTGAAGCCAT
188801 AGTATGATGA GCACCAAATG AGAGGGAATT TGGGGCAGCT CTTAGGAAGT
188851 CCTTACCAGA ATTTCTACAG TTTGTCCCAT AGGTCATCTT AGTGAAGACC
188901 TGGCAGATTG TCACTGCCCC TCTACTTGGA AACACGCTCA CAGAATAGTC
188951 CAGGTTCCCT TCCGTTGTGA TGATAGAATA CAAGTCATGC TCTGGCCTCT
189001 TGTTTTTTTT TCTAATGCTG ATTTTAATTT AAAAAGTGTT GTAAGCAGGT
189051 TTTGTCACCA GCCCGTGAGC TGAAAGATCC TGAAAGGCTG AAGAACTGGG
189101 TTCAGTTTGT TTGGGGCCTT GTCAGCAGTT CTCCCGTGCC TTTACTCCCT
189151 ATATATAAAA TAAGGTTTTT ACAATCTGAT AATGTTTTAT AAACTGAACT
189201 TTACTGTATC TACCACGAAA AAGAAAACAC CAAACAAGAA TTGACCTCAG
189251 CTGAAGCTGT AGTCTCTAGT AAGTAGAAAC CTGTAGTGAC TTGTGCTTTT
189301 GACTTGGGAT CCTGTAAGCT CCTGAAAAAG ATGCATATTG CATGTATGTG
189351 TTTACATAAC ACACATACAC AGACAAAGT AGAGATTAGT GCAAAACTGT
189401 CACTATTCTT ATTTTAATTA CCTAATGTTG GGTTATGTTT CGTTGCTTTT
                                          Z2 gene exon 6
189451 TTTGTTTTAA GCTGGAAAGA GAACTTACAT ACGAGAAGCT GATGGATTGG
189501 ATCAATCCTG AAATGATGGA CAGTACAGAA GTGAGGCTGT CTTTACCCAG
189551 ATTTAAACTG GAAGAAAATT ATGATCTGAA ACCCATCCTG AGCAACATGG
189601 GAATGCGTGA TGCGTTTGAC TTACGGATGG CGAACTTCTC AGGAATCTCC
189651 TCTGGTAACG AGCTTGTGCT CTCTGAAGTG GTTCACAAGT CCTTCGTGGA
189701 GGTCAACGAA GAAGGCACTG AAGCAGCAGC TGCCACAGCA GGAGTGATGG
189751 TGCTCCGTTG TGCTATGATC GTTCCCGACT TCACTGCCGA TCATCCCTTC
189801 CTCTTCTTCA TCCGGCACAA CAAAACTTCC AGTATTTTGT TCTGTGGCAG
189851 ATATTGCTCT CCCTAAGAAG AGAGACAGAA GAGCTACCAT TAACGCAGTA
189901 ATGTGATTTC TTTTAGGATA GAACTGCTCT TTTGCACTAA CTGCTTATTT
189951 CCACTGTGCC TGAATCCCCT TATCTGGTTG TCATTTTGGG CTTGCGTAGA
190001 GTAACAAAGC CACTTACACA TACACAGCAG CTACCACTTG AAACAGCTGC
190051 CTTACACTTT GCACCTAAGT GGAGTTGTTT CTTGCTGGC CCAAGAAAGA
190101 TGAACATCCC ACTTGCTCAG TGAACTTCCA CCTGTCTTAT ATTTTCTATT
                                          MAR (0.658)
190151 GCACTTTGCT TTTGTGTGGC CACCAGGTAG CAAGGTGACA AAGAGAAAAG
190201 AAGTGGATTT TGTTTCTGAC TATAGTGGAA GATATCTTAT GCTCTGCTCC
190251 CCATTTTTCT TCCTCTCCCC ACTTATTTTT AACTTTTTCT TTAATGTTTT
190301 GATAATAGAG GGAGATGAAA GGAGGCTTTG GCGACCTATT TGTAAGAGTT
190351 ACTAAGCATC TGCACTAGAC AGAGGTTTTA TTATAACTGG ATAGCACTTA
190401 CACAAGGATG GGAATAAAAG TATGTCTGTA ACAAATGACC TTAGAGGTTT
190451 TCATGGAGTA CGGATTCTTA TCTTAACACC ACATGTGCCA CCTGGGAATA
190501 TTAGCTATCA CTCACCTACT TCATTAGTCT TTTAAAAAAA GAATGTTTTT
190551 AAAAACAAAC AAACAAAAAA AAACCCATAG ATGCCTATGT AGTATTTAAG
190601 TGACAGAGCT TTATTTTTGT TTTTCAGTCT TTATATGTTT TTTTCCTATT
190651 CTGGGTTTGT AAAGCATCTT TGTTAATCTG AATGCCAAAG GTTTCTTAAC
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Fig. 1-73

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 190701 GCAGTGATTT ACGTGTTTTG CTGTTCTTGA AAGAATAAAC AAATTTGTTG
 190751 TGAGTGCTGT GGGCATTGCC CATAAATTTT GTGGGGTTTT TTTTTTTCAT
 190801 GGCTACTGTA AAGAAAACAA GCAATCAACT TTCGTGTAGC TTATGCAGAA
 190851 TTCATTGCTT AACAGAGGCT TTTCTGAATG CTGCAAGACC AAGATGCTTA
 190901 CCTGGATTAC GATGGAGTTT AGGTTTTTAC CTTCGAAGGA TTCATAGCAA
 190951 GGAGTCTTTG AGGCAAAGGC TCAAGGGATT TTAAAGACTA TCTGGTTCCA
 191001 ACTCCCTGCT GTGGGCATGG CTGCCCAGGG CTCCCTCCTC CCTGGCCTTC
 191051 GACACCTCCA AGGATGGGGC ACCCACAGCT TCCCTGGGCA GCTGTGCCAG
 191101 TGCCTCACCA ACCTCCAAGT GAAAAGATC CCCCTGACAT CTAATTGAAA
 191151 GTTCCTTTCA TTTATTTTAA AGCCATTCCC TCTTATTCCA TCACTATCAG
 191201 ACCAAGGCTC CCTTTATGTA TTGGAAGGCC ACAACAAGGT CCCCTTGGAG
 191251 TCTTCTCGAG GCTGAACAAG CTAAGTGCTT GTTTCCAGAT GGGGTACTGC
 191301 TGCTGTGGGT GCAACTCCTT GGCCCCAGGC CAAGGAGTGT GCCATGCCTC
 191351 AGATGCAGCG ATTAGTCACC ATTTGGGGTG AGGAAGCTGC CAAAGTGCTG
 191401 CCTGTCAGAC CGATGCTCAG TCAGGGCTGA GAGCAGCAGT GGGTAGAAGG
 191451 GAAGTGGGCA GCCTCTGCTC CCAGTGCATT GTCTGGGAAG GGGGTGGTAG
 191501 CAAGATGAAA AGTAGAAATT TTTCTGACCC TTCCTACGTG TCCAGGCTGC
 191551 TGCTGGAGTG TATTCATGGT GCTATGCTTA AAGTGAAAGC AAAAGCGTGC
 191601 TTGTCTAATT TGCTTCTTTT CTAAATTGAA AAGGAAAGTA ATCACATTAA
 191651 CGTCTACCAT AAAGCAGAGA GAAGCTGCCA GAAAGCTTGA GAGAAGCTAG
 191701 AAGCAGCCAT ATCTACAAAT CCCAGTGCAA ACAAGAAGGA GGGATCCCAG
 191751 CTGCACAAGC AGGAAGGCAG GAAGGTTTTA CAGCACTGTC TGCCGCCAGC
 191801 CTTTGCGTAA CCATCTGCCC GCCCCAGCAT TGCACCTTTC AACCCACTCC
 191851 CAGAGACCTC ACAGCTCCCA GTGGTCCTAG CTCCAGCTTA CTGCTGGCTG
 191901 CTCTCCTCCT GGTTTGATCC TCCCTAGCAG CTGCCAAGCA TCACAGGAGG
 191951 TAAGTGTGTG CTTGCTGTGC CTCTGCATTT TGCAGCCTGA AATGAATCCA
 192001 GCCCTTGGAA CTCGCACTAG GGCATCGAGG AGTGCTTTCT GAAGCCTTCA
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                                               Z3 gene exon 1

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 192051 CTGAAACTTT TATTTTTCAG CTGCAGCCAT GGAGAGCCTG AGCAATGCCA
 192101 ACAGCAGGTT TGCACTTGAT CTCTTCCGAA AGGTTAATGA GACGAACCCA
 192151 TCAGGAAACA TTTTCTTCTC CCCTCTCAGT ATTTCTACTG CTCTGGCCAT
 192201 GGTCCTCCTC GGGTCCAGAG GTAATACAGA GACACAGGTG CTGAAGGTCA
 192251 GCAGCATTTT CGCTTGTTTT ATTAAAATTA AATGTTGTTC AGTTTTAGAG
 192301 ACAAGGCAAG GGGAGGAGGG CGTTATTTGC GTGAGCTTGG GGCAAGGTTC
 192351 CTGTCACTCC TGCTGACTCT TCCCCCCTGC TGCCACCTGC CTGCTGCACT
 192401 CCAGAGCCCT CCTCTTGTGC TCACTGATAG CCCTTCTTTC TCACTTCATT
 192451 TGGGTTAATT GATGAATCTG GAAACTAATT TCACTGATTT ATCAGTCTTA
 192501 ATTTAAAATC GATTAGCATC TCCAGCAGCA AGTCTTTACT AGAGCTTGTG
 192551 ATAGGACATG GGGAACAGC ATTAAACAAA AAGGGAAGAT TTAGGCAAGA
 192601 TATTTGTTAG AGGAAGTTTT TCCACTGAGA AAGTGGTGAG GTGGTGGCAC
 192651 AGCTGCCCAG GGAAGCTGAG GGTGCCCCAT CCCTGGAGGT GTTCAAGACC
 192701 AGGTTGGATG GGGCCCTGGG CAGCCTGAGC TGGTGGGTGG CTGCCCTGCC
 192751 CACAGCAAGG CAGTGGAACT GGGTGGGCTT TAAGTTGAAT TCCAGCCCAA
 192801 CCCCATTCTA TGATTCTATG AGCCTTTTCC ACAGAGAACT ATTGTTTTGC
 192851 AATGTATACA TACATAATGG TATACATAGT AATGCTAAGT GTATCTTATA
 192901 AATAAAAAAT AAAATATAGA GCTGTATTAT TCTAAGGCTG ACAACTGTTA
 192951 CAATACATGG TGATGTTACC CAAGACCCAG TGTTATAGCA GCCAAGCACC
 193001 CAGTATTTCT GAGGAGCAGA ACTCACGTGT CCATTCTCAT GGTATCCTTA
 193051 GGTTGAGCAG CAGAGGTTAA ATGAAAATGG TGTGGCTCCT TTACTGGGGG
 193101 CTTTGTTGTG GACCCAGCTC ATCAATCCTT TCCCACTCTC CACAACAGCA
 193151 GTTGCAAACT GCAAATTCTC ATGTAGGTAG CAGTGCCAAT TCCCTCTCAG
 193201 ACTCATGTTC AAAAGGGACC CTGCCTCTTT TTTAATTTGC AAGGCAAACA
 193251 CCTGCTAGTG CAAGGGGAAG TATGAAAGAA TTGTCGCTGT AGTTCCTATT
 193301 AACTTATTTG CCCTATGATT AAGTTCACCT TTGTATTCCG AACTTTAGGA
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Fig. 1-74

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193351 AGAACTTGTT TAGACCATTA ACTGCTGCCA TTCTTTGTGA AAAGACTATA
193401 AAACTGAATC ACTGCTTGTA GAAACAGACT TTGAACATAC ATTCCTTATA
193451 ACTCAACTGT CAGCCCCACC CAGGAAGAAT CTACTGAGAG CAGAAATAAT
193501 GCAAGAGAAG CATAGGGAAG TTGGAGATAG AAGGTTGGGA TGAATGGTTG
193551 GACTGGGTGA TCCTGTGTGT CTTTTCCAAC TTCAGTGATT CTATGATTCT
193601 AAGGTGTTTC AGCACAGTAA CCTTCTGTAA TGCACATTCC CATGGTATAA
193651 TGTTTAATTG ATGAGAACAT CAGTTAATTA AGGAGATGAT GACTGATGAG
193701 TGTGAAGGGT GTTTATAAGC ATGCAGAAAT CCATTTCTGG GATCATAATC
193751 CTACCTTAAG TTGGAATCAT AGAGTACACC ACGGTGGAGG GGATCCATGA
193801 GGATCCAGCT CCACACAGCA CCACCCACTA TGGTAGATCC TGCTGCCCAA
193851 CCTGCACACC TTGGCTAGTC AGCTTCCCTT CAGGTATCTG TATGCACGCT
193901 TTCATATTAT AACAGCTTTT AATTTTAAGG TGATAGTTGT CTGTAGAAGC
193951 ACTTATATTT TCATAAAACC AAAGGTTATA GCTCTCACAT TTTCCTAACA
194001 CCTCACCTTC CCTGAGTGCT CAGACAAGCT CAGTAGTCCA CGGAGGAAAA
194051 ACATGCAGAC AGCACCCTAT TAGGACTCTG GATCACAATT AACAGCTTCA
194101 GCTGTGGCTA ACTGTATTCA GCTACTGCTT TACAAGTGAC ATGGCTGGCA
194151 CAGCACTAAG GGACAGTTTC ACTTGTTCTT TGATGGTTAC AGCTTTCAGC
194201 TTCTTTCTGC TTTTGTTTTT CAACTTAACT ACCAAACAAA TACCATACAG
194251 ATATGCTGCA TGTTCTCTAT AAATACAGCA TTAGCAGTAG TTAGCTCATC
                                               Z3 gene exon 2
194301 TCTTTCATTT CAGACGTTTC ATTTTGATGA AGTTGAAAAT ATACACTCAA
194351 GATTCCGGGC TCTGACTGCA GACATCAACA GAAGGGATTC TTCCTGTCTC
194401 CTACGGATTG CCAACCGGCT TTATGGAGAG AAGTCCTACA GCTTTCTGCC
194451 GGTATGGGTA CACAGACCAT AGCTGTGTGG TGGAACCTGG GGGGAGGCTT
194501 TGTAACTTCA TCATCTGTTG CTCTCCTGCC TCCAGAACGC GCCCCATAGC
194551 AAAAATATCA CACCAGCAAG TCCAGATGTC AAAACTATCT TTCTGCATCA
194601 ATAAGCAGCA TAGCTCAGGT GTTGCTGTCT TTATAGGAAT GCAGCCATTT
194651 GAGTATTTGA GGTAAAAACA TGACTAGACA TCTAAAGTT ACCAGGCAGT
194701 CAGTACGAGT GTTGTACACA TGCCTATAGA TGCAGAAATG CATATGCATC
194751 TGGACATCCT AAAGGATACG CCTAGAGGAT ATTACATAAC AAATCCCTTT
194801 CTTTGATAGT TCAGTTCTGC TGCTTTGGGG CTCAAGAGAA ATTGCAAGCC
194851 ATGTAGGTTC TTAGCTTAGA GTACAGATTA GCAATGCCCC ATTCCTCTGT
194901 CTGTTGTTTT TTAGGCTTTT CATTGCTCTA GTACTATATT ACTTAAAACA
194951 TTTTTGAAAA CATTTCTCTG GGGGGAGATT GCCATCATGT CTCAACAGCA
195001 TGCCTCTTTA CAAGGGAACT GTACCTCTGC ATCTATTTAG GTACTGCTAT
195051 TTTTATCCCT CTCCAGCTCT TTCTGGGAGT TTTTGTTTTC TTAGTCAAGC
195101 TT
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Fig. 1-75